ABHA KUMARI

Present Address
Department of Computer Science & Engineering
Bhagalpur College of Engineering
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Bihar, India – 813210
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Research Interest Software-defined Networking, AI, Machine Learning

Education

- PhD (February 2025)
  Department of Computer Science and Engineering
  Indian Institute of Technology Patna, Bihar, India
  Dissertation Topic: "Controller Placement in Software-defined Networking"
  Supervisors: Dr. Joydeep Chandra (Associate Professor, Department of Computer Science & Engineering, IIT Patna) & Prof. Ashok Singh Sairam (Professor, Department of Mathematics, IIT Guwahati)
- M.Tech in Distributed Mobile Computing (July 2014)
  Jadavpur University, Kolkata, WB, India
  Dissertation Topic: "Estimating Reliability of Cluster-based MANET"
- B.Tech in Computer Science & Engineering (July 2012)
  Haldia Institute of Technology, Haldia, WB, India

Academic Experience

- Bhagalpur College of Engineering, Sabour, Bhagalpur, Bihar, India
  - Assistant Professor, Department of Computer Science & Engineering
  - 11 August 2023 till present
  - Courses Taught: Artificial Intelligence, Machine Learning, Operating System(theory and lab), Object Oriented Programming c++ (theory and lab) at undergraduate level and Artificial Intelligence & Neural Network at postgraduate level
- Motihari College of Engineering, Motihari, Bihar, India
  - Assistant Professor – I, Department of Computer Science & Engineering
  - 11 July 2018 to 10 August 2023
  - Courses Taught: C Programming (theory and lab), Operating System (theory and lab), Software Engineering Machine Learning, Data Science, Artificial Intelligence at undergraduate level

Internship

- Samsung R&D Bangalore, India (December 2013 – June 2014)

Administrative Positions

- Motihari College of Engineering, Motihari
  - Warden, Girls Hostel, July 2018 to December 2021
  - Head Of Department, Computer Science & Engineering, January 2022 to January 2023
- Bhagalpur College of Engineering, Bhagalpur
  - Departmental Internship Coordinator

- Departmental Massive Open Online Course Coordinator
- Departmental BIS Coordinator

Publications

Conference

1. **Abha Kumari** Ashok Singh Sairam. *"LALB: An SDN Architecture for Dynamic Load Balancing"*. In International Conference on Advanced Networks and Telecommunications Systems **(ANTS)**, pp. 141-146. IEEE, 2022.
2. **Abha Kumari** Joydeep Chandra, and Ashok Singh Sairam. *"Predictive flow modeling in software-defined network"*. In IEEE Region 10 Conference **(TENCON)**, pp. 1494-1498. IEEE, 2019.
3. **Abha Kumari**, Joydeep Chandra, and Ashok Singh Sairam. *"Optimizing flow setup time in software-defined network"*. In 10th International Conference on Communication Systems & Networks **(COMSNETS)**, pp. 543-545. IEEE, 2018.
4. Vedhekar, Ojas Mangal, Ashok Singh Sairam, and **Abha Kumari**. "Binary countdown anti-collision protocol for RFID tag collision problem." 2016 International Conference on Accessibility to Digital World (ICADW). IEEE, 2016.

Journal

1. **Abha Kumari**, Arghyadip Roy, Ashok Singh Sairam. *"Optimizing SDN Controller Load Balancing Using Online Reinforcement Learning"* (**IEEE ACCESS** (2024).
2. **Abha Kumari**, Ashok Singh Sairam. *"Look Ahead Before You Leap: SDN Switch Migration Scheduling for Load Balancing"*. **Wireless Personal Communications** (2024).
3. **Abha Kumari**, Ashok Singh Sairam. *"Controller placement problem in software-defined networking: A survey"*. **Networks** (2021), 78(2), 195-223.

Book Chapter

- **Abha Kumari**, Shubham Gupta, Joydeep Chandra, and Ashok Singh Sairam. *"Reinforcement Learning–Based Approach Towards Switch Migration for Load-Balancing in SDN"*. In Artificial Intelligence and Deep Learning for Computer Network, pp. 35-55. **Chapman and Hall/CRC**, 2023.

Workshop

- Kushi Karla, **Abha Kumari**, Akash Yadav, Susham Biswas. *"Enhanced Controller Placement Strategies in SDN: A Gravitational Search Algorithm Perspective"*. 17th International Conference on COMmunication Systems & NETworkS - Workshop on Machine Intelligence in Networked Data and Systems (COMSNETS Workshop '25 - MINDS)

Fellowships & Awards

- Travel grant to COMSNETS 2018
- 2017 - 2018 NETJRF Fellowship UGC Delhi.

- 2016 – 2017 Institute Scholar Fellowship Ministry of Human Resource Development (MHRD), Government of India, as a PhD research scholar at Indian Institute of Technology Patna.
- 2012 – 2014 Recipient of GATE Scholarship from AICTE as a postgraduate student at Jadavpur University.

Academic Experiences, Achievements & Recognitions

- Cracked NETJRF UGC Examination in the year 2016
- Cracked GATE Examination in the year 2011

Conference Presentations

- "Predictive flow modeling in software-defined network". In IEEE Region 10 Conference (TENCON), Kochi, Kerala, India 2019.
- "Optimizing flow setup time in software-defined network". In IEEE 10^{th} International Conference on Communication Systems & Networks (COMSNETS), Bangalore, India, 2018.

Skills

- Languages: C, C++, Python
- Databases: Oracle, Microsoft SQL Server, MySQL
- Tools: Latex

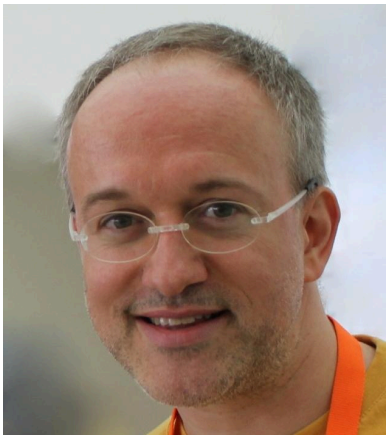
References

1. Prof. Ashok Singh. Sairam
   Professor
   Department of Mathematics
   Indian Institute of Technology Guwahati
   Guwahati - 781039
   Email: ashok@iitg.ac.in

2. Dr. Joydeep Chandra
   Associate Professor
   Department of Computer Science & Engineering
   Indian Institute of Technology Patna
   Patna – 801103 Bihar, India
   Email: joydeep@iitp.ac.in

Dated April 14, 2025

Curriculum Vitae



Current position, contact and bib-links

Univ.-Prof. Dr.techn. Dipl.-Ing. Wolfgang Slany
Institute of Software Technology
Graz University of Technology
Inffeldgasse 16b
8010 Graz, Austria

Email: wolfgang.slany@tugraz.at
Phone: +43 316 873 5721
Web: http://www.ist.tugraz.at/wolfgang_slany.html
Publications: Google scholar, DBLP computer science bibliography, ResearchGate

Academic milestones and positions

2003−now: Full professor of Computer Science at Graz University of Technology (full time permanent position)

2009−2019: Head of the Institute of Software Technology at Graz University of Technology

2002–2003: Visiting professor at the Institute for Information Processing and Computer Supported New Media of Hermann Maurer at Graz University of Technology

2001–2003: Tenured associate professor at the Institute of Information Systems, Vienna University of Technology

2001: Habilitation (Univ.Doz., venia docendi; equivalent to a tenured position), thesis on schedule optimization methods for the field “Applied Computer Science and Artificial Intelligence” at the Institute of Information Systems, Vienna University of Technology

1997–2001: Assistant professor at Georg Gottlob’s group, Vienna University of Technology

1991–1997: Research assistant at the Christian Doppler Laboratory for Expert Systems at Vienna University of Technology and head of the StarFLIP++ group

1994: Dr.techn. (PhD) in Applied Computer Science at Vienna University of Technology under Georg Gottlob (thesis on Artificial Intelligence)

1989–1991: Researcher at the department of Mathematical Engineering and Information Physics at Tokyo University, Japan, in the group of Masao Iri.

1989: Dipl.-Ing. (equivalent to Master’s degree) in Computer Science at Vienna University of Technology

Main areas of research

Agile software development, computer science education, visual programming, open source software, gender studies to increase inclusiveness of computer science, computer games, software testing, robotics, and artificial intelligence.

Short statement of the most important research results achieved to date

2010–now: Catrobat project, with a research and development focus in visual coding, robotics, Artificial Intelligence, user interaction and more, resulting in several hundreds of publications, 12 PhD theses, with 1,100+ contributors, 600+ person years of development effort, 2.5+ million users since 2014 and 250,000 monthly active users as of end of 2020, and winner of 14 national and international awards (among others: Huawei HMS Best App Europe Award 2020; two best paper awards at IEEE conferences in 2018; Re-Imagine Education Gold Award 2016 Europe from Wharton School of the University of Pennsylvania in Philadelphia; Young Minds Award 2015 from the European Commission; Austrian Innovation Award for Multimedia and e-Business 2013). Catrobat was the single objective of the European Commission's 3.4 million € "No One Left Behind" Horizon2020 project that focused on inclusiveness of coding for teenage girls, teenagers with special needs, and teenagers from underprivileged social backgrounds as well as immigrants and refugees.

1995–2011: My results in the area of combinatorial optimization and Artificial Intelligence, resulting both in Erdős 2 via five publications with Frank Harary on the complexity of graph theory problems as well as in practical applications of the theoretical results in commercial software of Ximes.com - their products Shift Plan Assistant and Operating Hours Assistant contain the algorithms developed by my team - a perfect match between theory and practice.

1991–1996: My research in the area of Artificial Intelligence and Expert Systems resulted in algorithms that were employed in the Austrian steel industry to optimize continuous casting for special alloy steels and pig iron desulphurization. The work was awarded with the Heinz Zemanek Award 1996 for the best PhD thesis in Computer Science in Austria (awarded only every second year).

Selected achievements

1. Huawei HMS Best App Europe Award 2020.
2. Best Paper Award at IEEE International Conference on Innovative Research and Development (ICIRD 2018).
3. "Closing the Gender Gap" Award 2017, Internet Foundation Austria / NetIdee.
4. Re-imagine Education Gold Award for the best European educational application 2016, Wharton School of the University of Pennsylvania in Philadelphia, USA.
5. "Internet for Refugees" Award 2016, Internet Foundation Austria / NetIdee.
6. ICT 2015 "Young Minds" - Grand Prix Best Exhibitor Award, European Commission.
7. Austrian National Innovation Award for Multimedia and e-Business 2013, Austrian Ministry for Economics and Youth Development.
8. First and second places at the 20th Anniversary Iterated Prisoners Dilemma Competition 2004, IEEE Congress on Evolutionary Computation, Edinburgh, UK.

9. Heinz Zemanek Award 1996, Austrian Computer Society (best PhD thesis in Computer Science in Austria, awarded every second year).
10. COMDEX “Best Non-US Software” Award 1989, Las Vegas, USA.

Publications Wolfgang Slany October 2021 – October 2024

B Spieler, S Gursch, V Krnjic, K Horneck, W Slany: **Designing, Coding, and Embroidering: A Workflow for Gender-Sensitive and Interdisciplinary Teaching**

- *International Journal of Emerging Technologies in Learning (iJET)*, 2024, Vol. 19(6), pp. 79-104
- **Impact Factor**: 2.33 (2023)

MS Uddin, W Slany: **Visual Programming for Human Detection Using FaceNet in Pocket Code**

- *International Journal of Interactive Mobile Technologies*, 2024, Vol. 18(13)
- **Impact Factor**: Not available.

S Uddin, W Slany, KJ Hasan: **On-Device Neural Network for Object Train and Recognition using Mobile**

- *International Journal of Interactive Mobile Technologies*, 2024, Vol. 18(12)
- **Impact Factor**: Not available.

S Kutschera, W Slany, P Ratschiller, S Gursch, P Deininger, H Dagenborg: **Incidental Data: A Survey towards Awareness on Privacy-Compromising Data Incidentally Shared on Social Media**

- *Journal of Cybersecurity and Privacy*, 2024, Vol. 4(1), pp. 105-125
- **Impact Factor**: Not available.

Bernadette Spieler, Manuela Dahinden, Klaus Rummler, Tobias M Schifferle, Alexander Beste, Alexander Piwowar, Alina Stolzenburg, Anja Tschiersch, Anna Schaffert, Anna-Lena Brown, Björn Maurer, Céline Hutter, Christoph Braun, Danilo Dietsch, David Baberowski, David Haselberger, Elisa Dittbrenner, Ewald Wasmeier, Fares Kayali, Fatmir Racipi, Florian Furrer, Gordon Fraser, Hannah Bunke-Emden, Ingo Bosse, Jan-Rene Schluchter, Jennifer Schmidt, Johanna Tewes, Juanita Schläpfer-Miller, Katharina Schurz, Kerstin Boveland, Kristin Narr, Linya Coers, Lisann Prote, Luisa Greifenstein, Maria Grandl, Martin Ebner, Matthias Steinböck, Max Blindenhöfer, Melanie Stilz, Mirek Hančl, Nadine Bergner, Nadine Dittert, Nina Brendel, Patrick Ratschiller, Philippe Minet, Sandra Schön, Sarina Gursch, Saskia Gantner, Selina Ingold, Stefan Kutschera, Stephan Robinig, Stephanie Eugster, Thiemo Leonhardt, Thomas Knaus, Tobias Thelen, Ute Heuer, Wolfgang Slany: **Making & more: gemeinsam Lernen gestalten**

- *OAPublishing Collective*, 2024
- **Impact Factor**: Not available.

S Kutschera, W Slany, P Ratschiller, S Gursch, H Dagenborg: **MRNG: Accessing Cosmic Radiation as an Entropy Source for a Non-Deterministic Random Number Generator**

- *Entropy*, 2023, Vol. 25(6), Article 854
- **Impact Factor**: 2.738 (2022)

S Gursch, L Ayciriex, Y Ursa, S Kutschera, W Slany, J Onuki, G Ferreira: **Perspectives on Gender Mainstreaming in International Cooperation in STI: A Comparative Study**

- *International Conference on Gender Research*, 2023, Vol. 6(1), pp. 146-154
- **Impact Factor**: Conference proceedings typically do not have an impact factor.

S Gursch, S Robinig, P Ratschiller, S Kutschera, W Slany: **From Smartphone to Fabric: Mobile Embroidery Programming**

- *MedienPädagogik: Zeitschrift für Theorie und Praxis der Medienbildung*, 2023
- **Impact Factor**: Not available.

S Kutschera, W Zugaj, W Slany: **Appraisal of a Random Bit Generator Utilizing Smartphone Sensors as Entropy Source**

- *2022 International Conference on Electrical, Computer, Communications and Engineering*
- **Impact Factor**: Conference proceedings typically do not have an impact factor.

S Finke, F Kemény, M Sommer, V Krnjic, M Arendasy, W Slany, K Landerl: **Unravelling the Numerical and Spatial Underpinnings of Computational Thinking: A Pre-registered Replication Study**

- *Computer Science Education*, 2022, Vol. 32(3), pp. 313-334
- **Impact Factor**: 1.868 (2022).

Sarina Gursch, Katja Urak, Michael Herold, Stefan Kutschera, Silvia de los Rios Perez, Rebeca García-Betances, Maria Fernanda Cabrera-Umpierrez, Yolanda Ursa, Wolfgang Slany, Vesna Krnjic: **Inequalities for Women in Science, Technology, and Innovation**

- *ICGR 2022, 5th International Conference on Gender Research*, 2022
- **Impact Factor**: Conference proceedings typically do not have an impact factor.

C Schindler, KK Luhana, W Slany: **Towards Continuous Deployment of a Multilingual Mobile App**

- *International Journal of Emerging Trends in Engineering Research*, 2021, Vol. 9(7)
- **Impact Factor**: 0.93 (last reported in 2020)

Himanshu Kumar

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Profile

AI & Computer Vision Engineer and Android Developer with expertise in **Python, TensorFlow, PyTorch, YOLO, Flutter, Android,** and **Firebase**. Experienced in **on-device ML**, building and deploying real-time solutions in **biometric security, emotion recognition,** and **object detection**, optimized for mobile applications from **data preparation to deployment**.

Education and Training

B.Tech, Computer Science and Engineering **CGPA: 8.6**
Bhagalpur College of Engineering, India *2020 – 2024*

E & ICT Academy, IIT Kanpur
Summer Training on App Development with Android with Java **2022**

Professional Experience

Mantra Softech Pvt. Ltd. *Sep 2024 – Present*
Associate AI Research Engineer *Bangalore, India*

- Built a TensorFlow-based spoof-detection model achieving **99.99% accuracy** for biometric anti-spoofing.
- Developed an iris matcher for secure identity verification pipelines.
- Worked on full ML lifecycle from data annotation to model quantization and deployment.

Arishna IoT Solutions *August 2024 – Present*
Python Developer Intern
- Decoding Interspecies Communication with the help of AI.
- Working on multiple other projects based on AR/VR, IoT, Android App.

Personal Projects

AI Emotion Detection & Text Sentiment Analysis App
Python, TensorFlow, TFlite, OpenCV, Flutter

- Built a real-time facial emotion & sentiment analysis app with on-device inference under **100ms**.
- Optimized on-device inference for mobile applications, ensuring fast and efficient performance.

CodeAlert — Coding Contest Alert App
Android (Flutter), Firebase

- Aggregates coding contest schedules and sends real-time alerts to **500+ users** automatically.

BEU B.Tech Syllabus — Android App
Android (Java)

- Offline syllabus app for B.Tech courses with notes functionality.

Technical Skills

- **Programming Languages:** Python, C++, Java, SQL, JavaScript
- **Web & Backend:** HTML5, CSS, ReactJS, FastAPI
- **Mobile & Frontend:** Flutter, Android (Kotlin/Java)
- **Databases & Tools:** Firebase , VS Code, Git, Github, Docker, Roboflow, Bitbucket

Achievements

- Solved 500+ problems on LeetCode, etc. strengthening problem-solving and algorithmic skills.
- Published over 10 Android apps on Google Play Store, including personal and academic projects.

Krishan Mohan Patel

Doctoral Researcher, Computer Science Department, Technische Universität Graz

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Indian
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Profile

Results-driven Computer Science professional with over five years of hands-on experience in IT, specializing in IoT development. Seeking a dynamic role to contribute to industrial advancement by applying practical knowledge in cutting-edge concepts and implementing **AIoT**-driven solutions.

Education

2023/08 – present
Graz, Austria
Doctorate in Technical Sciences
Technische Universität Graz

2015 – 2017
Bathinda, India
M. Tech- Computer Science and Technology(CST) specialization in cyber security
Central University of Punjab

2011 – 2015
Kolkata, India
B. Tech- Information Technology
B.P. Poddar Institute of Management & Technology

Professional Experience

2022/06 – 2023/07
Patna(WFH), India
IoT Developer
Bruhati Services
Proficiently assess solution prerequisites, feature solicitations, and anomalies, strategically determining the most effective strategies to provide steadfast customer solutions. Specialized in Cumulocity IoT, Smart City projects, and adept in Automation Anywhere, Node JS, Internet of Things (IoT), and Python programming, ensuring successful project outcomes and client satisfaction.

2017/07 – 2022/05
Bangalore, India
Software Engineer
Xtrans Solutions
As an IoT visionary, I've been instrumental in founding an IoT Lab, enhancing IoT Cloud security, and seamlessly integrating Blockchain into applications, leveraging BLE, WiFi, NFC, and UWB technologies. My skill set includes crafting a comprehensive Blockchain Training Program and mastering Cryptography, RTOS, I2C, SPI, ARM MCUs, and Software development. With several years dedicated to advancing secure digital solutions in wireless technologies, my goal is to contribute to a more connected and comfortable society.

2015/12 – 2017/07
Bathinda, India

IT Technician
Central University of Punjab
I worked as a part-time IT Technician under the 'Earn While Learn' scheme at my university, where I was responsible for website maintenance, hardware system analysis, security auditing, network activity monitoring, and the management of the Apache server within the Computer Center.

Interests

- Internet of Things (IoT)
- Software Development and Automation
- Artificial Intelligence and Machine Learning
- Educational Technology and E-Learning
- Enthusiastically engaging in Tech Conferences and Workshops

Skills

Programming Languages
Python, C

Internet of Things (IoT/IIoT)
IoT Cloud, IoT Hardware and Sensors, IoT Communication Protocols, IoT Data Analytics, IoT Security, IoT Platform Integration, IoT Use Case Development, IoT Solution Design and Architecture

Web Development
HTML, CSS, JS, Angular, Node JS, Mongo DB

Research
Conducting evidence-based evaluations, writing scientific publications

AI and Machine Learning
Open CV, Tenser Flow, TensorFlow, PyTorch, scikit-learn

Version Control
Git, Bitbucket, Source Tree

Curriculum Development
Designing didactic concepts, AI-driven learning materials

Communication
Fluent in English, Strong presentation skills

Languages

- English
- Hindi

Awards

2019/03 **Outstanding Employee Awards**
Xtrans Solutions

2018/10/24 **Young research scholarship for Colombo International Conference on Social Science & Humanities (ICSSH)-2018**
Global Research & Development Services

2017/02/04 **Best Poster award- 3rd Prize in University (Cancer Day)**
Central university of Punjab

2015 **Documentary Competition- 3rd Prize in University**
Central University of Punjab
Link: https://www.youtube.com/watch?v=KrljpQPnAuo&t=55s

2016 **Documentary Competition- 2nd Prize in University**
Central University of Punjab
Link: https://www.youtube.com/watch?v=uhE3T0M1-wo&t=225s

Notable Accomplishments
Post-Graduation, Graduation & School:

TU Fest Volunteer (2023): Actively participated as a volunteer in TU Fest, showcasing dedication to extracurricular activities.
NSS (National Social Service) - 2 years (2015-2017): Demonstrated commitment to community service by participating in NSS for two years.
Rajasthan Hackathon 3.0 Participation (2017): Competed in the Rajasthan Hackathon 3.0, displaying problem-solving skills.
Unity and Diversity Cultural Program Participation (2017): Contributed to cultural diversity by participating in the Unity and Diversity Cultural Program.
Appreciation Award for Developing Collage NAAC and Alumni Association Website (2016): Received recognition for web development skills.
NCC 'A' Certification (2007-2009): Achieved 'A' certification in the National Cadet Corps.
Active involvement in Scout Guide (2007-2009): Demonstrated leadership and teamwork in the Scout Guide program.
Academia & Industry:

Completed "Show & Tell - Introduction to generative AI in higher education" course, Edutech Europe 2023: Gained knowledge in generative AI for education.
Conducted Webinar on "Connecting the Future: Exploring IoT Innovation" (September 2023): Shared insights into IoT innovation.
Organized online PDP on "Industry 4.0 and Internet of Things (IoT) Applications" (July 2023): Facilitated professional development.
Presented at the STeP-IN Summit 2023 on "Revolutionizing Business Efficiency: Unleashing the Power of Robotic Process Automation": Showcased expertise in RPA.
Conducted a two-day workshop on "IoT-Demystifying Industrial IoT: Building Smart Solutions" (June 2023): Delivered hands-on IoT training.
Represented Bruhati Smart Hospital during the UK-India Digital Health Trade Mission 2023 (February 2023): Contributed to healthcare innovation.
Led a 5-day training program for Wipro L1 Engineers on the "Fundamentals of Internet of Things" (December 2019): Provided IoT education.
Conducted a Faculty Development Program on "Internet of Things" at IIITDM-Kurnool (November 2019): Contributed to faculty development.
Organized the NKN Summer Workshop on "Blockchain Technology" at IIT Guwahati (2019): Facilitated blockchain education.
Delivered guest lectures at Jayamukhi Institute of Technology (November 2019): Shared expertise with students.
Served as a Resource Person (Instructor) for the "Workshop on Practical Implementation of Smart City Systems" at NIT-Rourkela (2018): Provided guidance on smart city systems.
Conducted an IoT workshop as a Resource Person (Instructor) at NIT Warangal (2018): Imparted IoT knowledge to participants.

Projects

2022 – 2023

Pantalone Project - Phase 1
During my tenure at Bruhati Services Private Ltd., I played a pivotal role in the successful execution of the Pantalone Project, specifically focusing on Phase 1 completion. This project encompassed various aspects of software development and automation, employing cutting-edge tools and technologies.

Key Responsibilities and Achievements:

Technology Stack: Leveraging Node JS, MongoDB, Automation Anywhere Enterprise, Bitbucket, Azure DevOps, and Confluence, our team embarked on the development journey of Pantalone Project.

Development: I actively contributed to the development phase, using JavaScript, HTML, and CSS to create robust and user-friendly interfaces and functionalities.

Automation: Automation was a central component of this project. With Automation Anywhere Enterprise, we streamlined workflows and enhanced operational efficiency.
Version Control: Utilizing Bitbucket, we maintained version control for our project, ensuring collaboration and code management were seamless.
Cloud Integration: Azure DevOps played a vital role in facilitating cloud integration and deployment, making our system highly scalable and accessible.
Documentation: Throughout the project, I maintained comprehensive documentation and collaboration using Confluence, ensuring that project details, milestones, and updates were well-documented and accessible to the team.

2022/06 – 2022/10

POCs and Demos (Smart Healthcare Management System, IRISH Rail - Maintenance Prediction)

During my tenure at Bruhati Services Private Ltd., I actively participated in the development and execution of Proof of Concepts (POCs) and Demos, encompassing a range of innovative solutions. These projects were instrumental in showcasing our capabilities and harnessing cutting-edge technologies to address real-world challenges.

Key Responsibilities and Achievements:

Technology Stack: Leveraging Angular, Raspberry Pi, and Cumulocity IOT Cloud, we embarked on the development journey of various POCs and Demos.

Smart Healthcare Management System: I contributed to the creation of a Smart Healthcare Management System, using Angular and JavaScript. This system aimed to improve healthcare operations and enhance patient care through technology-driven solutions.

IRISH Rail - Maintenance Prediction: Our team developed a predictive maintenance solution for IRISH Rail, utilizing Raspberry Pi and Cumulocity IOT Cloud. This project aimed to reduce downtime and improve the efficiency of rail maintenance operations.

2017 – 2021

Centre of Excellence(CoE) Project

IoT Lab for Universities/Industries (Smart City, Smart Automobile, Smart Solar System, Smart Grid System, Smart Health Care System, Manufacturing & Warehouse System)

As a key contributor at Xtrans Solutions Pvt. Ltd., I actively participated in the Centre of Excellence (CoE) project, which served as a pivotal hub for innovation and experimentation in the realm of Internet of Things (IoT). This initiative aimed to empower advanced innovation labs, enabling the exploration of diverse IoT use cases and the development of proof-of-concepts (POCs). Modules were meticulously crafted for learning purposes, covering a wide spectrum of IoT applications, including Smart City solutions for urban optimization, Smart Automobile technology for enhanced vehicle functionalities, Smart Solar Systems for efficient energy harnessing, Smart Grid Systems for streamlined power distribution, Smart Healthcare Systems to elevate patient care, and Manufacturing & Warehouse Systems for process optimization.

Additionally, I played a pivotal role in the Xtrans IoT Cloud project, where we focused on building a robust IoT cloud platform to support various applications. This project involved a dynamic team of five professionals. We leveraged cutting-edge technologies, including MongoDB, Eclipse editor, Node.js, HTTP, MQTT, and cloud services such as Ubidots, Xtrans IoT Cloud, and AWS Cloud. Our responsibilities encompassed rigorous testing and implementing stringent security measures to ensure the reliability and confidentiality of IoT data. We utilized JavaScript, Angular JS, Node JS, and Hapi.js for application development, laying the foundation for a secure, scalable, and efficient IoT cloud infrastructure.

These combined projects(IoT Lab and IoT Cloud) underscore our commitment to advancing IoT innovation, establishing secure cloud environments, and fostering a culture of continuous learning and development within the organization. The Centre of Excellence Project aimed to nurture talent and creativity, while the Xtrans IoT Cloud Project provided the technological backbone to support IoT solutions across various domains.

2015 – 2017 **Web Development and Enhancement for University Associations**

Campus Services

While working part-time at Central University Of Punjab, I undertook a series of web development projects aimed at enhancing the university's online presence and streamlining various administrative processes for different associations. These projects included:

Online Payment Gateway: I designed and implemented an online payment gateway to facilitate secure and convenient online transactions for various university activities and services.

Student Cooperative Mess Application: I actively contributed to the development of a web application for the Student Cooperative Mess. This application provided students with an easy-to-use platform for meal selection, payment, and feedback submission.

CUP Alumni Association Website: As part of my responsibilities, I played a key role in the creation of the CUP Alumni Association website. This platform served as a hub for alumni to connect, access resources, and stay updated on university news and events.

NAAC IQAC Cell Web Application: Another significant project involved the development of a web application for the NAAC IQAC Cell. This application facilitated the management of accreditation-related data and processes, ensuring compliance with quality standards.

Workshop, Internship, and Online Offline Courses

- Entrepreneurship & Technology: From Idea to Market(MOOC Online), September 2023
- Business Considerations for 5G with Edge, IoT, and AI from edX, September 2023
- Certified Cumulocity IoT Edge Solutions Associate from Software AG June 2023
- Certified RPA(Robotic Process Automation) Developer, 2023.
- Certified Bot Developer (Automation 360), 2023.
- IISC- Bangalore CCE-Proficiency courses (Deep Learning and Practices) December 2019.
- One Week Short Term Course on Recent Trends in Network Security 2018.
- Department of CSE, IIT Roorkee, 8-12 January 2018.
- Internet of Things (IoT) (13th Jan-17th Jan, 2018) at Electronic and ICT Academy IIT- Roorkee 2018
- Embedded Systems & IOT Application. By CDAC Mohali-2017.
- GAIN Course- Energy Management in Cloud Data Center at IIT Patna-2017.
- Online Udemy Certification: CCNA Security 210-260 Course- Aug. 2017.
- Online Udemy Certification: Particle Swarm Optimization in MATLAB.

Publications

Poster/Paper Publications

- International Conference on Forensic Science and Cyber Security (InFoSec) "A survey on DNS reflection amplification Attacks and defending mechanisms" Gandhinagar-2017.
- Poster Presentation on "Smart warehouse using Arduino and Raspberry Pi "during the 2nd Cyber-Physical Systems Symposium (CyPhySS), Bangalore-2018.
- Poster Presentation on "A review on security challenges: Architectural security challenges in cloud computing" during the Global Conference on Cyberspace (GCCS-2017), New Delhi.
- "Image Enhancement By Cuckoo Search Algorithm For Crime Investigation" Colombo International Conference on Social Science & Humanities (ICSSH), October 2018, Sri Lanka.
- "A Smart Automobile for Intelligent Traffic System Using VANET Protocols" published in IJITEE ISSN:2278-3075, Volume-9, Issues-4 2020.

- DBSCAN CLUSTERING ALGORITHM ON HADOOP ENVIRONMENT- 2020 http://sersc.org/journals/index.php/IJAST/article/view/6221

Declaration

I affirm that the information provided above is accurate to the best of my knowledge, and I assume full responsibility for its correctness.

MANISH KUMAR

|| +91-9031969516 || krmanish2302@gmail.com || LinkedIn || GitHub ||

➢ OBJECTIVE

Motivated final-year Computer Science student with practical experience in machine learning, NLP, GenAI and document AI. Seeking to leverage strong technical skills and project experience to contribute to innovative AI-driven solutions in a forward-thinking organization.

➢ EDUCATION

YEAR	DEGREE/BOARD	INSTITUTE	GPA/%age
2025	B.Tech (CSE)	BCE Bhagalpur, Bihar	7.74
2020	12th (BSEB)	S.B.M.P Mandil, Jehanabad	83.2
2018	10th (CBSE)	DAV Public School, Jehanabad	82

➢ TECHNICAL SKILLS

- **Programming Languages:** Python | C++ | C | SQL | Arduino
- **Frameworks & Libraries:** PyTorch | Keras | Scikit-learn | Pandas | NumPy | Streamlit | OpenCV
- **AI/ML & Concepts:** Machine Learning | Deep Learning | Computer Vision | NLP | Generative AI | RAG | Prompt Engineering | LLMs | AI Agents | Transformers | BERT | LayoutLM (Multimodality Transformers) | OCR
- **Tools & APIs:** LangChain | HuggingFace | OpenAI API | Gemini API | Chroma DB | Git | Streamlit

➢ COURSES DONE & CERTIFICATIONS

- Data Structures & Algorithms | Operating Systems | Database Management Systems | Computer Networks | Machine Learning
- **Generative AI with LLMs** – DeepLearning.AI || **Agents course** – Huggingface (ongoing)
- **Supervised & Unsupervised Learning, Deep Learning** – Scaler

➢ PROJECTS

- **Chat with YouTube content** [Tech stack: Python, LLMs, OpenAI, Gemini, Streamlit]
  - Generated transcript of YouTube video using youtube transcript API.
  - Developed ***Retrieval Augmented Generation (RAG)*** architecture to assist viewers to perform question answering with transcript data using ***Langchain***, ***Vector Database***, Large language model (***LLMs***) and Streamlit.
  - Enabled user-configurable parameters such as chunk size, # relevant chunks, relevance threshold, and diversity.
- **News Classifier and Summarizer** [Tech stack: Python, PyTorch, LLMs, Transformer, BERT, Streamlit]
  - ***Fine-tuned BERT*** for news classification into four predefined categories, achieving **~99% accuracy**.
  - Build an 80 words summarizer using ***deepseek-r1:8b*** model via ***Ollama*** leveraging ***prompt engineering*** which takes news category and news text as input.
  - To accommodate images leverages Tesseract **OCR** for image to text conversion.
- **Document Anonymizer** [Tech stack: Python, , PyTorch, Transformer, BERT, Streamlit]
  - Developed a solution to identify personal information like name, address, organization and mask them.
  - Finetuned a ***BERT*** model for ***Named Entity Recognition task (NER)*** to identify entities in the document, achieved ~90% accuracy
- **Custom Key-Value Extraction from Invoices** [Tech stack: Python, LayoutLMv3, Transformer, PyTorch, OCR, Streamlit]
  - Developed a complete pipeline for training and deploying custom ***key-value extraction models*** for invoice image documents.
  - Fine-tuned the ***multi-modal transformer model LayoutLMv3***, which uses both ***visual and textual features*** to extract key fields (eg., invoice number, date, total amount) from Amazon and Flipkart invoices, achieving ~**90%+ accuracy**.
  - Used **EasyOCR** for text detection and recognition and fed text and image segment in LayoutLMv3.
- **Foundational AI & Data Science Projects** [Tech stack: Python, Keras, NumPy, Pandas, Matplotlib, Seaborn]
  - Built a **CNN** model to classify CIFAR-10 images, achieving **~ 87%** accuracy.
  - Developed neural networks for MNIST digit recognition with **~ 97%** accuracy.
  - Performed **EDA** on the Iris dataset to identify feature patterns and visualized them using various plots and built a classifier to categorize flower species.

➢ SCHOLISTIC ACHIEVEMNETS

- Ranked in the top 1% in Class 12th Board Exams.
- Ranked in top 5% in JEE MAIN 2021, Appeared for JEE ADVANCE 2021.
- Secured 2nd Place in SIH Internal Hackathon
- Achieved 2nd Place in LFR Inter-College Robotics Competition

➢ EXTRA CURRICULAR ACTIVITIES

- Top 25 Startup Idea in the Startup Bihar Innovation Challenge – Selected from across India
- Assistant Coordinator, ESROS Club (2023-2024)
- Co-Ordinator, ESROS Club (2024-Present)

PRABHAKAR JOSHI

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Portfolio: Prabhakar Joshi - YouTube
GitHub: https://github.com/joshi-p
LinkedIn: Prabhakar Joshi | LinkedIn

EXPERIENCE

Studio Shodh — Delhi, IN
Technical Lead — Aug 2023 – Mar 2024

- **Directed the technical execution** of **VR real estate projects,** leveraging **Unity** and **Blender** to create interactive and immersive experiences.
- **Responsible for architectural visualization, asset optimization, and VR integration, ensuring high performance and visual fidelity** resulting in a **15% increase in sales leads and positive client feedback.**
- **Oversaw the technical aspects of VR development, including 3D modeling, texturing, lighting, optimization, and integration with VR hardware.**
- **Collaborated** with a **cross-functional team**, ensuring **timely delivery** and **adherence to quality standards.**

PROJECTS

AR Based Historical Monuments Visualizer — Jan 2024 – Feb 2024

- **Developed an AR solution** that allows tourists to **visualize historical monuments in real-time** by **scanning their images.**
- **Leveraged Flutter, Unity** with **ARCore/ARKit along with C#** for delivering **seamless augmented reality experiences.**
- **Implemented intuitive navigation** and **dynamic content loading for enhanced user engagement.**

VR Based Hyper-realistic Architectural Visualizers — Aug 2023 – Mar 2024

- **Designed interactive Unity/Blender VR tours,** enabling immersive property exploration for prospective buyers and **improving sales conversion rates.**
- **Leveraged Unity HDRP** with **Blender** along with **XR Interaction Toolkit** for delivering detailed textures and materials for photorealistic rendering in **Unity**, resulting in enhanced visual communication.
- **Designed and implemented VR-ready architectural environments in Unity,** optimizing assets and code for **seamless performance on target VR platforms** while maintaining a **high level of visual fidelity** and **user interactivity.**

USDT Transaction Explorer — Oct 2024 – Nov 2024

- **Developed a system** designed to visualize **USDT wallet transaction data.**
- The application assists businesses by retrieving **wallet transaction data, visualizing transaction flows,** and **providing AI-based safety analysis** regarding wallets before **engaging** in transactions.
- **Hosted** the system on **AWS** for **enhanced machine learning performance.**

EDUCATION

IILM University — Delhi, IN
B.Tech – Computer Science & Engineering

KEY SKILLS

TECHNICAL SKILLS

- **Programming Languages:** C#, Java, Dart, C, C++, Python
- **Frameworks:** Flutter, Firebase
- **Tools:** Git, Android Studio, Unity, Blender
- **Database:** Firebase Realtime Database, MySQL
- **Other Skills:** REST APIs, State Management (Provider), AR Foundation, Vuforia SDK, XR Interaction Toolkit, Etherscan and Tronscan API's

SOFT SKILLS

- Team Leadership
- Interpersonal Communication
- Research Oriented

CERTIFICATIONS

Certifications

- **Secure Coding Practices (THM)**
- **AWS Academy Graduate**
- **Advanced Flutter Developer (Udemy)**

ACHIEVEMENTS

- **Inter-College Hackathon Winner**
- **SIH Qualifier**
- **TryHackMe Top 10%**

ADDITIONAL

- **Languages**: Fluent in **English** and **Hindi**
- **Volunteer**: **Hitaya Foundation**

Amartya Roy

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Kolkata, INDIA
LinkedIn Portfolio GitHub

B.Tech student in Information Technology with skills in Python. Enthusiastic about machine learning, currently in the learning phase. With a good teamwork and communication, I am seeking for opportunities to apply these skills in a tech role.

Education:

- B. P. Poddar Institute of Management and Technology, B.Tech. in Information Technology [August 2022 to June 2025] [CGPA: 7.66]
- Behala Govt. Polytechnic, Diploma in Computer Science and Technology [August 2019 to July 2022] [CGPA: 8.0]
- XII Board Examination (WBCHSE), Science Stream [March 2018 to March 2019] [Percentage: 65.8%]
- X Board Examination (WBBSE) [Jan 2016 to March 2017] [Percentage: 79.81%]

Projects:

Decentralized Voting System (Hyperledger Fabric, React, Node.js, JWT) (July 2025 – September 2025)

- Designed and implemented a secure, tamper-proof voting platform using **Hyperledger Fabric** for decentralized ledger management.
- Built a React (Vite) frontend with TailwindCSS/ShadCN UI for responsive, user-friendly poll creation and voting interfaces.
- Developed a Node.js + Express backend with JWT-based authentication (Access + Refresh tokens) to enforce role-based access control.
- Integrated **Fabric SDK** to handle voter registration, poll management, and immutable vote recording on the **blockchain**.
- Implemented one-person-one-vote enforcement and real-time result aggregation, including total vote counts for **transparency**.
- Utilized **LevelDB/CouchDB** as Fabric's state database for maintaining immutable audit logs of all voting transactions.
- Focused on preventing voter list tampering by ensuring all records are **cryptographically** verifiable and resistant to manipulation.

Secure IoMT data transmission using Blockchain in EdgeLevel Devices (August 2024 – June 2025)

- Developed a **Hyperledger Fabric-based Blockchain network** to securely store IoT sensor data, ensuring tamper-proof and decentralized storage.
- Implemented **MQTT-based real-time data transmission** between ESP32, ESP8266, and Raspberry Pi 5, integrating **fault-tolerant seamless communication** across multiple brokers.
- Enhanced IoT security with proper network security analysis and preventing possible cyber-attacks for MQTT communication.
- Built a **Database-integrated blockchain backend** to efficiently store and retrieve IoT sensor data.
- Developed a **dynamic alert system** where ESP32 fetches sensor data and ESP8266 displays real-time alerts when thresholds are exceeded.
- Designed a **multi-host blockchain architecture**, enabling **cross-network data fetching and storage** between separate Raspberry Pi blockchain nodes.

Sign Language to Text Translator (July 2024 – August 2024)

- Developed a real-time **sign language recognition model** with precise accuracy using **Python**, **TensorFlow**, and **Media-Pipe Holistic**.
- Captured and processed gesture data with 1662 key points across 30 sequences for each gesture.
- Built an **LSTM-based neural network** for classifying basic gestures i.e. "Hello", "Thanks", and "I Love U."
- Trained the model over 2000 epochs, utilizing early stopping for optimal performance.
- Future plans include expanding the dataset and deploying the model in web/mobile application

Steganography using LSB method (June 2022 – July 2022)

- Developed a **steganography** application in **Python** that enables covert communication by embedding secret messages within **image pixels** using the **Least Significant Bit (LSB) technique.**
- Explored various secure communication methodologies, highlighting the potential applications and benefits of steganography in **data security**.

Technical Skills

- Programming Languages: **Python**, **SQL**
- Tools and Technologies: **IoT, Blockchain, Machine Learning, Git**

Soft Skills

- Teamwork & Collaboration: Working effectively within diverse teams to achieve shared objectives.
- Discipline: Consistently meet deadlines and maintain standards of quality in all deliverables.
- Communication: Descent verbal and written communication skills, clear and effective interactions with team members. Strong attention to detail, ensuring accuracy and thoroughness in all tasks.

Language:

- English: C1 level
- Hindi: B2 level
- Bengali: Native

Extra Curriculum Activity:

- Achieved 2nd runner-up position in creative writing at College Cultural Fest, ELIXIR 2023.
- Actively participated in the Intra-college Football Tournament, demonstrating teamwork and sportsmanship.

Interests:

Passionate about sports, traveling, reading, and art, which contribute to a well-rounded perspective and creative approach to problem-solving.

Declaration:

I, Amartya Roy, hereby declare that the information provided in this resume is accurate and true to the best of my knowledge. I accept responsibility for any errors that may arise in this.