

# Sourav Mishra

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CONTACT	ML Engineer, <b>theAstate-Kinliser</b> 12F, Tokyo Global Square, 1-3-1 Toranomon	sourav@astate.ai
EXPERIENCE	<b>AState</b> , Tokyo, Japan. <b>Role:</b> ML Engineer <b>Description:</b> <ul style="list-style-type: none"><li>• Designing and deploying image aided evaluation of natural disaster effects, building conditions &amp; estimating repairs and insurance premiums by advanced computer vision pipelines. Catering to most major building insurance customers in Japan.</li><li>• Responsible for 3D reconstruction of spatial layouts using Pytorch. Using iOS extracted data for modeling the interior of apartments and building spaces, and combining/matching spatial data with other sensor readings to provide a holistic view</li></ul>	Oct. 2021 - Present
	<b>Anymind Group</b> , Tokyo, Japan. <b>Role:</b> ML Scientist-II, Product Development. <b>Description:</b> <ul style="list-style-type: none"><li>• Responsible for estimating viewership demographic for online advertisement channels. Managed to match the viewers' ages &amp; country, monthly active users (MAUs) and estimated click through rates with higher than 70% accuracy for better advertisement price appraisals.</li><li>• Developed an end-to-end sentiment analysis model with higher than 90% accuracy for 5 languages (English, Thai, Vietnamese, Malay and Tagalog) to estimate the user responses to advertisements on social media channels (Youtube, Twitter &amp; Instagram). Model developed and deployed using Pytorch, Huggingface APIs, FastAPI and Docker.</li><li>• Developed sensitive media detection model, to identify and isolate profanities, obscenities and explicit imagery in the social media content using Pytorch. Content flagging accuracy at 62%</li></ul>	Feb. 2021 - Oct. 2021
	<b>exMedio Inc</b> , Tokyo, Japan. <b>Role:</b> Consultant, Deep learning solutions <b>Description:</b> <ul style="list-style-type: none"><li>• Responsible for identifying potentially serious conditions by supervised learning on medical image dataset. Project developed using Pytorch and FastAI to provide higher than 90% accuracy on limited set of identified target conditions, which need immediate medical following up. Model containerized (by backend team) and deployed to 3 public hospitals in Tokyo.</li><li>• Model the detection of the out-of-distribution image samples, such that inputs can be automatically tagged for human review at a later stage.</li><li>• Setup a continuous learning pipeline, which is triggered at specific intervals to initiate rapid retraining or fine-tuning models as necessary.</li></ul>	Apr. 2018 - Dec. 2020
	<b>Amity University</b> , India. <b>Role:</b> Instructor <b>Description:</b> Responsible for teaching pattern recognition, grant negotiation & corporate liaison	Sep. 2015 – Jul. 2016
EDUCATION	<b>University of Tokyo</b> , Japan. Ph.D., Department of Information & Communication Engineering	Sep. 2017 – Mar. 2021
	<b>Virginia Tech</b> , Blacksburg VA, US M.S., Department of Biomedical Engineering & Applied Mathematics. GPA: 3.81/4.0	Aug. 2013 - May 2015

**Virginia Tech**, Blacksburg VA, US  
M.S., Department of Electrical & Computer Engineering.  
GPA: 3.82/4.0

Aug. 2010 - May. 2013

**Manipal University**, Manipal India  
B.S., Department of Electronics/Biomedical Engineering.  
GPA: 8.70/10

Jul. 2005 - Aug. 2009

SKILL

**Programming:** Python (9 years), C (10+ years)  
**Machine Learning:** PyTorch & Keras (7 years)  
**Analytical:** MATLAB (10+ years)

ACHIEVEMENTS

Microsoft Research Visiting Fellow, 2018  
MEXT Scholarship, Government of Japan (2017-2020)  
Bradley Fellowship, Virginia Tech (2011-2012)  
Stanford India Biodesign Fellowship, 2009-2010

JOURNAL

S. Chaudhary, H. Roy, **S. Mishra**, T. Yamasaki, [Adversarial Training Time Attack Against Discriminative and Generative Convolutional Models](#), IEEE Access, Vol.9, pp.109241-109259, 2021

**S. Mishra**, S. Chaudhary, H. Imaizumi, T. Yamasaki, [Robustness of Deep Learning Models in Dermatological Evaluation: A Critical Appraisal](#), IEICE Trans. Information & Systems, Vol. E104-D(3), 2021

**S. Mishra**, R. Kappiyoor, [Collimator Width Optimization in X-Ray Luminescent Computed Tomography \(XLCT\) with Selective Excitation Scheme](#), J. Medical Imaging & Health Informatics, Vol. 4 (5), 2014, pp. 681-686.

**S. Mishra**, K.S. Sharma, S.J. Lee, E.J. Fox, G. Wang, [SLATE: Virtualizing Multiscale CT](#), J. X-ray Science & Technology, Vol. 20 (2), 2012, pp. 239-248.

**S. Mishra**, K.S. Sharma, S.J. Lee, E.J. Fox, G. Wang, [Kinematics-coordinated walking pattern based on embedded controls](#), J. Medical Engineering & Technology, Vol. 34 (5-6), 2010, pp. 329-334.

CONFERENCE  
& WORKSHOPS

**S Mishra**, S. Chaudhary, H. Imaizumi, T. Yamasaki, [Assessing Robustness of Deep learning methods in dermatological evaluation](#), ACM Conference on Health Inference and Learning (CHIL) Workshop, 2020 [Oral Spotlight].

**S Mishra**, H. Imaizumi, T. Yamasaki, [Interpreting Fine-Grained Dermatological Classification by Deep Learning](#) Conference on Computer Vision and Pattern Recognition (CVPR), ISICW 2019 [Selected Oral].

**S Mishra**, H. Imaizumi, T. Yamasaki, [Improving image classifiers for small datasets by learning rate adaptations](#), Machine Vision Applications 2019 [Selected Oral, Honorable mention for best paper].

**S Mishra**, RS Rekhi, A Sharma, G Vyas [Segmentation of Musculoskeletal Tissues with Minimal Human Intervention](#), pp. 45-53, ICT for Sustainable Development (ICT4SD), 2016

P Rai, V Golchha, A Srivastava, G Vyas, **S Mishra** [Automatic classification of bird species using audio feature extraction and SVMs](#), pp. 1-5, International Conference on Inventive Computation Technologies (ICICT), 2016.