

# AMIRSINA TORFI

Machine learning Expert

Email : [sina@mycompanydomainname.com](mailto:sina@mycompanydomainname.com) (the domain name of my company is **instillai...**)

🏠 Personal Page: <https://sinatorfi.com>

📝 Machine Learning Blog: <https://www.machinelearningmindset.com>

🌐 LinkedIn: <https://www.linkedin.com/in/amirsinatorfi/>

🐙 GitHub: <https://github.com/astorfi>

⚙️ Founder of Instill AI: <https://instillai.com>

## SUMMARY

- I got my Ph.D. from Virginia Tech and *founded Instill AI company*. I served the ML community by my 7+ Years of experience in Machine Learning & Deep Learning making ML accessible to a broader audience by publishing tutorials, courses, newsletters, and books. I have built state-of-the-art models in different domains such as Healthcare, Natural Language Processing, Computer Vision, and Speech Technology. Only on GitHub, *my open-source projects have 10,000+ monthly readers and 5000+ developers are currently make benefit from them. My projects were featured and trending on GitHub and Hacker News many times*. Ranked by Git-Awards as one of the top-20 Python Github developers in the United States and top-100 worldwide [[Link](#)].

## TECHNICAL SKILLS

- **Basic:** Python, AWS, GCP, Linux, LaTeX, Shell, Git, SQL
- **Libraries:** TensorFlow, Keras, PyTorch, Scikit-Learn, NumPy, Pandas, NLTK, Seaborn, Matplotlib, Jupyter Notebook
- **Machine Learning:** Convolutional Neural Networks, Recurrent Neural Networks, Generative Adversarial Networks, Statistical Analysis, Core Algorithms (Logistic/Linear Regression)

## INDUSTRY EXPERIENCES

- **Business Contract (Instill AI).**  
(*Deep Learning Specialist, May'20 - Present*)
  - **Role:** Deep learning expert to consult on the setup, design, and development of 3D medical imaging app.
  - **Goal:** 3D medical imaging and the application of Deep Learning for segmentation applications. Generative Adversarial Networks as a fundamental part of the project.
  - **Challenge:** The lack of enough data and complexity of segmenting small areas.
  - **Highlights:** *The client's need to an expensive commercial software was eliminated. The cost of the commercial software was more than 50K USD annually!*
  - **Skills:** TensorFlow, PyTorch, Python, Git, Computer Vision.
- **Business Contract (Instill AI).**  
(*Deep Learning Specialist, May'20 - Dec'20*)
  - **Goal:** Reconstruction of 3D CT scan images from 2D X-Ray images.
  - **Challenge:** The challenge was the limited available data as well as the information transfer from 2D to 3D space.
  - **Highlights:** *Developed a model runs 2x faster than state-of-the-arts with competitive accuracy.*
  - **Skills:** TensorFlow, PyTorch, Python, AWS, Git, Computer Vision.
- **Business Contract (Instill AI).**  
(*Senior Data Scientist, Apr'20 - May'20*)

- Senior Data Scientist at a Dynamic Startup for Health Technology
- Creation of proprietary commercial technology in the health bioinformatics space.
- **Skills:** Python, Pandas, Synthetic Data Generation, NLP.
- **Business Contract** (*Instill AI*).  
(*AI Consultant, Aug'18 - Dec'19*)
  - Providing consultation regarding how to leverage various deep learning model in an information extraction pipeline.
  - How to leverage NLP for document analysis.
  - How to use synthetic data to replace real data to tackle privacy issues.
  - **Highlights:** *Generated and utilized a synthetic data instead of real data with **only 4% accuracy drop** compared to the utilization of real data.*
  - **Skills:** Python, NLTK, TensorFlow, NLP.

## PUBLICATIONS

- **Papers**
  - Please refer to relevant links [[Google Scholar](#), [Researchgate](#)]
- **Books**
  - [[January 2020](#)] *Linear Algebra for Machine Learning* book. [[Amazon](#), [LeanPub](#)]
  - *Deep Learning Roadmap - Resource Guide*. [[Book Page](#)]
  - *Deep Learning in Natural Language Processing - Resource Guide*. [[Book Page](#)]
  - *TensorFlow Roadmap - Resource Guide*. [[Book Page](#)]
- **Online**
  - Blog posts: [[Link](#)]
  - Courses: [[Link](#)]

## PROJECTS, Under the umbrella of Deep Learning and Machine Learning!

- **Evaluation of Generative Adversarial Networks By Discriminative Models**  
(*Generative Adversarial Networks, NLP, Computer Vision, Healthcare*)
  - We leverage discriminative models to propose a domain-agnostic evaluation metric.
  - Qualitative evaluation is consistent with human evaluation
  - The method is robust relative to common GAN issues such as mode dropping and invention
- **Cor-GAN: Synthetic Data Generation for Privacy-Preserving Machine Learning** [[Paper](#), [GitHub](#)]  
(*Generative Adversarial Networks, NLP, Healthcare*)
  - We proposed a novel framework called correlation-capturing Generative Adversarial Network (Cor-GAN), to generate synthetic healthcare records
  - The proposed method outperforms current state-of-the-arts
- **TensorFlow Course** [[GitHub](#)]  
(*TensorFlow, **15k+ stars** on GitHub*)
  - Comprehensive Open Source Online Course in TensorFlow
  - GitHub repository of the day, week, and month
  - One of the [top-20 TensorFlow projects worldwide](#).
- **Machine Learning Course** [[GitHub](#)]  
(*TensorFlow, **6k+ stars** on GitHub*)
  - Open Source Course in Machine Learning
  - GitHub repository of the day, week, and month
  - One of the [top-50 Python Machine Learning projects worldwide](#)
- **SpeechPy** [[GitHub](#), [Project Page](#)]  
(*Python, Speech Processing, **800+ stars** on GitHub*)

- A Library for Speech Processing and Recognition
- Customized for Deep Learning applications
- **Deep learning in Speech and Speaker Recognition** [[GitHub](#), [Project Page](#), [Paper](#)]  
(*Speech Processing*, **600+ stars** on *GitHub*)
  - Using 3D Convolutional Neural Networks for Speaker Verification
  - GitHub repository of the day, week
- **Lip Reading** [[GitHub](#), [Project Page](#), [Paper](#)]  
(*Computer Vision*, *Speech Processing*, **1.4k+ stars** on *GitHub*)
  - Cross Audio-Visual Recognition using 3D Convolutional Neural Networks
  - GitHub repository of the day, week

## ACADEMIC EDUCATION

Degree	University	Year
Ph.D. in Computer Science	<i>Virginia Tech</i>	2018 - 2020
MS in Information Technology	<i>Iran University of Science and Technology</i>	2011 - 2014
BS in Electrical Engineering	<i>Iran University of Science and Technology</i>	2006 - 2011