MASHRIN SRIVASTAVA

EDUCATION

VELLORE INSTITUTE OF TECHNOLOGY, India
Bachelor of Technology in Computer Science and Engineering, May 2018

- CGPA: 9.59/10.00 (Rank: 4 in a class of 219 students); Major CGPA: 9.64/10.00
- Achiever Award for overall performance.
- Teaching Assistant for Object oriented programming and Data Structures & Algorithms.
- Undergraduate Research with the Artificial Intelligence group.
- Best Project Award for the academic year 2015-2016 and 2016-2017.
- Program representative for Computer Science and a member of the student council.
- Invited to MIT Media Lab Emerging World and Google Developer Days 2017.

PROFESSIONAL EXPERIENCE

INTEL CORPORATION, India

Deep Learning Engineer 3 (Grade 6), Jul 2020 – present *[Team size: 3]*

- Part of a highly selective group, which works on identifying, innovating and building new products at Intel.
- Founding and core member of the Health AI product vertical at Intel India (Oct '18).
- Led the execution to build solutions to achieve faster, less-expensive COVID-19 testing and coronavirus genome sequencing to understand the epidemiology. This was deployed in multiple centers all over the country.
- Developed an algorithm to perform AI-based risk stratification for patients. This helps the hospitals to admit the patients based on their risk level and also provides an advice on the level of care.
- Winner of the Best Project award; Most Innovative Project Award; Special mention by the CEO in the earnings report.
- Co-founder and CTO for an internal venture on AgroTech, as part of Emerging Growth Incubation.

Deep Learning Engineer 2 (Grade 5), Jul 2019 – Jun 2020 *[Team size: 4]*

- Built an on-premise, secure and privacy-preserving platform, deployed in hospital premises and managed like an app store consisting of internal apps as well as models from the partners.
- Technical mentor for the healthcare-related early-stage startups incubating at Intel India.

Deep Learning Engineer (Grade 3), Jun 2018 – Jun 2019 *[Team size: 3]*

- Developed the City Stack, which got deployed in multiple cities (Started March '18).
- Built the toolkit for automated workload simulation for performance insights. This provides information on how a model will perform on a specific hardware configuration.
- Designed the initial architecture for the Health AI project offering.

Technical Intern, Dec 2017 – May 2018

- Worked on algorithms for smart home gateway and smart mobility.
- Among early members to contribute to the Edge AI products (Movidius and OpenVINO) at Intel.

STANFORD SCHOLAR INITIATIVE; *Contributor and Directly Responsible Individual, Feb 2017 – May 2018 [Not an employment]*

- An initiative to make research more accessible. The role of DRI is to lead the group along with individual contributions.
- Led the team and worked on creating the research talks for the most influential papers from top conferences for Computer Science (AI, ML, CV).

WINGIFY; *Data Science Intern, Jun 2017 – Jul 2017* *[Team size: 2]*

- Built features for personalized push notifications to users to reduce spam & decrease the unsubscription from services.
- Experimentation with different algorithms such as Latent Dirichlet Allocation, DB Scan, Glove, Skip gram vectorization, etc. helped gain insights on scalability issues in large-scale machine learning problems.

CERELABS; *Data Science Intern, Dec 2016 – Jan 2017* *[Team size: 2]*

- Built models to predict machine failures. Applied Deep Learning to analyze the customer service call record data.

KNOLSKAPE; *Software Developer Intern, Jun 2016 – June 2016* *[Team size: 3]*

- Gamified an existing product (Build Your Business) such that it could be used by the general audience. The proposal was low risk, low investment and opened a new avenue for the company.

SKILLS OVERVIEW

- Languages: Python, C, C++
- Databases: SQL, NoSQL
- Framework/Library: TensorFlow, PyTorch, scikit-learn
- DevOps: Docker, Kubernetes, Message brokers

TECHNICAL LEADERSHIP

INNOVATION

- 11 invention disclosures at Intel. • 8 technical ideas in the long-term product consideration.

INTERNAL PUBLICATIONS (INTEL)

- AI-Driven Medical Imaging Powered by Intel and Philips (Up to 188x faster inference for AI models)
- Greyspot analytics using collision avoidance system alerts.
- Deep neural network inference acceleration, DTTC conference (Intel's top conference)
- Biases in an AI system, Intel Software Professionals Conference.

EXTERNAL PUBLICATIONS

- Automated emergency paramedical response system, *Health Inf Sci Syst 6, 22 (2018), Springer.*
- PageRank Algorithm using Eigenvector Centrality-New Approach, *Global Journal of Pure and Applied Mathematics., 12(3), 907-914.*
- Smart City: An Intelligent Automated Mode of Transport Using Shortest Time of Travel using Bigdata for the book *Frontiers of Data and Knowledge Management for convergence of ICT, Healthcare, and Telecommunication Services, Springer*. [Accepted]
- Clinical Validation and Edge Implementation of Calcium Scoring AI Model for Assessing Severity of Coronary Artery Disease, *IEEE International Symposium on Biomedical Imaging.* [Under review]
- Risk Stratification and Mortality Prediction Models: Is Steroid Usage Responsible for Lower COVID19 Mortality Rate in India? [To be submitted to eLife Sciences]

INVITED TECHNICAL TALKS (EXTERNAL)

- Develop AI at the network edge, FOSSASIA 2019.
- Rethinking Ethics and Privacy in the age of AI: Grace Hopper Celebration India 2019.
- Automated Emergency Paramedical Response System, FOSSASIA 2019.
- Using differential privacy for deep learning applications, FOSSASIA 2019.
- Transform with AI, Amazon AI Conclave 2018 [Demo for the keynote talk]
- AI on the Edge, DataHack Summit 2018.
- Teamwork and Communication in the COVID-19 era, Guest lecture at Vellore Institute of Technology.
- Artificial Intelligence at the network edge, International Workshop on Computing Trends Transforming 2020.
- Practical Approach to Deep Learning, Guest lecture at PES University.
- Interpretability for Structural MRI Segmentation Models.

ACHIEVEMENTS

- Merit certification from Central Board of Secondary Education (CBSE), India.
- Divisional Recognition Award from Intel India Head for the COVID-19 product.
- 20+ recognition awards at Intel.
- Recipient of Secure and Private AI challenge scholarship by Facebook.
- Member of the Association for the Advancement of Artificial Intelligence (AAAI).
- Big Data hackathon winner for flight delay prediction, Microsoft.
- University of Texas Dallas Data Science '17 hackathon winner for breast cancer detection.
- University of Texas Dallas Data Science '17 most popular award winner for stock price prediction.
- 3 prizes in Atlassian Codegeist 2020 hackathon.
- Most popular project award at Make School Hackathon.
- C, C++, Python and Java certification from IIT Bombay.
- Mathematics of Deep Learning certification from IIT Kharagpur.
- 50+ certifications (related to AI, security, privacy, ethics, etc.) at Intel.
- Best Student Performer Award, Cognizant.

PAYING IT FORWARD

- Volunteer to mentor and conduct workshops for primary school students.
- Part of a team to help fund a wholesome education for the underprivileged.
- Co-designed the curriculum for “Practical Approach to Deep Learning” course at PES university.
- Contributed to an app that allows users to pin unclean areas countrywide, notifies the authorities and track their progress. This resulted in transparency and accountability to maintain cleanliness. App was commended by Prime Minister of India.

SELECTED PROJECTS

- User-friendly console panel for server administration.
- Model to simulate the growth of forest from scratch using cellular automata.
- Navigation device for the visually impaired.
- ML algorithm to predict vehicle trajectory and estimate fuel consumption as well as the CO2 emission.
- 3D guidance system starting airport entry gate to your aircraft using Unity.
- Sensor node to detect forest fires and inform the authorities about the location and the intensity.
- App for calculating various centrality measures for large graphs using MATLAB.