

Mashrin Srivastava

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EDUCATION

- Carnegie Mellon University** Pittsburgh, PA, USA
• *Master of Science - Machine Learning; GPA: 4.08/4.00* Aug 2021 - Dec 2022
Sem 1: Machine Learning (PhD level), Independent study (Research), Tech Entrepreneurship and Innovation
Sem 2: Advanced Deep Learning, Convex Optimization, Multimodal Machine Learning, Computer Vision, Independent study (Research)
Activities: Graduate Student Assembly, SCS Dean's Master's Advisory Committee, MSML Admission Committee, Swartz Center for Entrepreneurship's Student's Advisory Council, SCS MAC Health and Wellness Project Lead, Mentor for CMU AI Mentoring Program
- Vellore Institute of Technology** India
• *Bachelor of Technology - Computer Science and Engineering; GPA: 9.59/10.00* Jul 2014 - May 2018
Relevant coursework: Data Structures, Algorithms, Object-oriented programming, Computer Architecture, Agent Based Intelligence System, Computer Networks, Computer Programming and Problem Solving, Data warehousing and mining, Databases, Image and Computer Vision, Internet and Web Programming, Operating Systems, Microprocessor, Theory of Computation
Activities: Achiever Award for overall performance, TA for Object oriented programming and Data Structures & Algorithms, Undergraduate Research with the AI group, Best Project Award for the academic year 2015-2016 and 2016-2017, Program representative for Computer Science, Member of the student council, Invited to MIT Media Lab Emerging World and Google Developer Days 2017
Internship: Interned at Wingify (VWO), Knolskape, Cerelabs and Intel

EXPERIENCE

- Microsoft** Redmond
• *Data and Applied Scientist Intern* May 2022 - Aug 2022
 - Part of the Azure Core Architecture and Incubation Data Science team in Cloud & AI group
 - Improve the location matching between the change record (code deployment, configuration updates, physical infrastructure changes, etc.) and incident record from 42% to over 90%
- Carnegie Mellon University** Pittsburgh
• *Research Assistant* Sep 2021 - Current
 - Part of the DELPHI research group. The group works on epidemiological forecasting, with a long-term vision of making this technology as universally accepted and useful as weather forecasting is today
 - My focus of research is on COVID-19 Trends and Impact Survey (CTIS), where I work with research Scientists at Meta (Facebook) to monitor the spread and impact of the COVID-19 pandemic and vaccination
 - Worked on problems related to survey instrumentation, completeness analysis, troll identification, predicting COVID-19 from symptoms and case ascertainment
 - Delphi and CTIS team won the 2021 Allen Newell Award for Research Excellence in SCS at CMU, the Policy Impact Award and the Warren J. Mitofsky Innovators Award from the American Association for Public Opinion Research (AAPOR)
- Intel** Bangalore
• *Deep Learning Engineer I / II / III* Dec 2017 - Aug 2021
 - Built Health AI, smart city and mobility products as part of a highly selective innovation group, working on the R&D of new product verticals at Intel
 - Core and founding team member of the AI/ML inference platform for Health AI product vertical
 - Led the technical execution to build solutions to achieve faster and cheaper COVID-19 testing and genome sequencing in India, which got deployed on a population scale
 - Developed COVID-19 risk stratification models for the hospitals to admit the patients based on their risk level
 - Designed the City Stack (India Urban Data Exchange), which got adopted as the data exchange platform for all current and future smart cities in India
 - Built a Mobility platform that uses Mobileye collision avoidance (ADAS), fleet telematics, health & driver monitoring data to provide solutions to avoid road accidents
 - Co-founder and Chief Technology Officer for an internal AgriTech venture as part of Emerging Growth Incubation, which selects new ventures with USD 1 Billion potential
 - Early contributor to the OpenVINO and Movidius Edge AI products at Intel. Movidius powered the first satellite with AI on board
 - Mentored 3 incubating startups, and 5 interns and recent college graduates

HONORS AND AWARDS

- Technologist of the year (2020) award at Intel. (Youngest winner ever)
- Best Project of the year (2020) award at Intel
- Most Innovative Project of the year (2020) award at Intel
- Member of the MIT Technology Review Global Panel
- 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
- 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

TECHNICAL LEADERSHIP

- **Innovation:**
 - 10+ invention disclosures at Intel.
 - 8 emerging growth proposals in the long-term product consideration at Intel.
- **Selected External Publications:**
 - Automated emergency paramedical response system, HISS 6 (1), 1-16, Springer
 - Clinico-Genomic Analysis Reveals Mutations Associated with COVID-19 Disease Severity: Possible Modulation by RNA Structure, Pathogens 10 (9), 1109
 - COVID-19 Risk Stratification and Mortality Prediction in Hospitalized Indian Patients: Harnessing clinical data for public health benefits, PloS one 17 (3), e0264785
 - Driver scoring system and method with accident proneness filtering using alert clustering and safety-warning based road classification, US Patent Application
 - PageRank Algorithm using Eigenvector Centrality-New Approach, Global Journal of Pure and Applied Mathematics
 - Smart City: An Intelligent Automated Mode of Transport Using Shortest Time of Travel, Frontiers of Data and Knowledge Management for Convergence of ICT, Healthcare, and Telecommunication Services [Book chapter]
 - *In Progress:* Papers related to predicting COVID-19 from symptoms collected in the CTIS survey, case ascertainment, Multimodal Multihop Question Answering
- **Selected 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
- **Invited Speakership:**
 - Develop AI at the network edge, FOSSASIA 2019
 - Rethinking Ethics and Privacy in the age of AI: Grace Hopper Conference 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

PAYING IT FORWARD

- **COVIDSOS:**

- Single-handedly built a COVID-19 chatbot to dynamically curate the availability of essential resources (like ICU, ventilators, oxygen cylinders, plasma, ambulance, meals, etc.) from Twitter posts and other sources
- It also provided doctor consultation and details regarding the vaccination slot availability
- It helped over 2 Million people in India during the second wave of COVID-19
- Received appreciation from Twitter, Google, Intel, CMU and other major media outlet

- **Stanford Scholar Initiative:**

- Initiative to make research more accessible. Worked on creating research talks for the most influential papers from top conferences in AI and ML
- Served as a Directly Responsible Individual (DRI). The role of DRI includes the task of leading and managing the group along with contributing

- **Swachh Map App:**

- Contributed to an app that allows users to pin unclean areas in India, notifies the authorities and tracks their progress
- The app was commended by the Prime Minister of India

- **Educational Volunteering:**

- Co-designed the curriculum for “Practical Approach to Deep Learning” course at PES university
- Volunteer to mentor and conduct workshops for primary school students
- Part of a team to help fund a wholesome education for the underprivileged

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
- Detection is all you need: Using technology to detect declining mental health
- Sentiment Analysis using Yelp data
- 3D guidance system starting at airport entry gate to your aircraft (Indoor map)
- 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

SKILLS SUMMARY

- **Languages:** Python, C, C++, JavaScript, SQL, NoSQL, KQL, Bash
- **Frameworks:** Scikit, NLTK, PyTorch, TensorFlow, OpenVINO, Keras, Django, Flask, ELK stack
- **Tools:** Kubernetes, Docker, GIT, Terraform, Ansible, Helm, Kafka, RabbitMQ, Solace Pub/Sub
- **Platforms:** Linux, Web, Windows, Arduino, Raspberry, AWS, Azure, GCP