KARAN TYAGI

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EDUCATION

San Jose State University (SJSU), San Jose, California, USA   2021-2023
Master of Science in Software Engineering   CGPA: 3.78/4.0

TECHNICAL SKILLS

- **Coursework**: Machine Learning, Deep Learning, Artificial Intelligence, Data Mining, DBMS, Operating Systems, Design & Analysis of Algorithms
- **Programming Languages**: Python, SQL, Java, JavaScript, HTML
- **Environment & Tools**: Git, Rasa, Django, Heroku, Seaborn, Neo4j, Pandas, SciPy, Keras, TensorFlow, NumPy, Scikit-learn, SQLAlchemy, PyQt, OpenCV, AWS, Docker, Scrum/Agile, Hadoop, PySpark

WORK EXPERIENCE

Research Assistant, Indian Institute of Science (IISc), Bangalore, India   Jan 2021 – June 2021
- Prepared dataset using CVAT (Computer Vision Annotation Tool) and assisted in building a deep convolutional neural network architecture for lane detection for Indian roads under Dr. Pradipta Biswas. Training Dataset: IDD (Indian Driving Dataset) Benchmarking Datasets: TuSimple, CULane. Model accuracy: 95.19%.
- Trained and tested neural network models for an industrial client. Model predictions were used to evaluate an objective function for a genetic algorithm-based optimization program. Later, compared the performance of Genetic Algorithm with Particle Swarm Optimization algorithm. Also, developed a graphical user interface in PyQt for the client.

Software Development Intern (Pipeline), Tau Films, Hyderabad, India   Jan 2020 – Nov 2020
- Integral part of the development team for Taco & Vendata– the proprietary pipeline tools developed using Python which are used by artists and vendors. Vendata reduced the duration of file uploading process by 80%.
- Provided technical assistance with rendering jobs to artists on a Pepsi Vietnam Commercial and a Chinese feature film (The Yinyang Master).

Software Development Intern (Pipeline), Double Negative (DNEG), Mumbai, India   May 2019 – July 2019
- Worked on developing a lighting tool using Python library PyQt and Autodesk Maya API to help reduce the light-rig setup time by 90%.

Web Development Intern, COMP-2000, Sarajevo, Bosnia and Herzegovina   Jul 2018 - Jul 2018
- Worked on developing a website, using the .NET framework, to keep records of the client companies. The website enabled centralization of company data and improved the efficiency of the finance department and team leads by 45%.

Co-founder, Ostellos, Jaipur, India   Jul 2017 - Mar 2019
- Lead the product design and development team for Ostellos, an online platform to search across 35+ off-campus housing options. The start-up was incubated under the Atal Innovation Mission, an initiative by the government of India.

PROJECTS

- **Hotel Chatbot**   Feb 2022 - Apr 2022
  Built a chatbot using RASA that allowed the user to update reservation, cancel reservation etc. The chatbot identified 20+ user intents and was deployed on Slack using ngrok.

- **Petals to the metal**   Feb 2022 - Apr 2022
  Trained various Machine Learning models to identify 104 types of flowers based on their images stored in TFRecord format using TPU (Tensor Processing Unit). Got an accuracy of 94% with ResNet using data augmentation and dynamic learning rate.

- **Drowsiness Detector**   Aug 2021 - Nov 2021
  Built a Django application to detect if a driver has slept while driving using OpenCV, NumPy, Pandas and deployed the application using Heroku. The application sent an emergency SMS using Twilio API if the driver has closed the eyes for more than 10 seconds.

LEADERSHIP

- **Chief Finance Officer, IAESTE LC (The International Association for the Exchange of Students for Technical Experience – Local Committee), Manipal University Jaipur (MUJ)**   Nov 2017 - Dec 2018
  - Responsible for managing funds (membership fees, placement fees, interns' stipends, and expenditure) and analyzing the financial viability of all major activities carried out by 250-member strong organization.

HONORS AND AWARDS

- Finalist in the Smart India Hackathon'19 organized by the government of India.
- Got the second position at the State level and qualified for the National round of the Start-up League Competition, April 2018.