RITURAJ SINGH

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EXPERIENCE

Software Engineer
Accolite

July 2020 – Dec 2020 Delhi, India

- Developed a cross-platform donations application and administration portal using React Native, Node JS, Mongoose, Express and MongoDB.
- Designed and implemented the backend for seamless transfer of donated entities to schools in need.

Software Engineer Intern
Xilinx

June 2019 – Aug 2019 Hyderabad, India

- Developed an algorithm in C++ for faster coverage of data transfers on memory sets in Xilinx System on Chip Validation software.
- Improved total convergence speed of Post Silicon system validation by 75 %.
- Automated generation of visualizations through Python scripts for bug/failure analysis of simulation systems.

Research Intern
Deepkapha.ai

Dec 2018 – May 2019 Delhi, India

- Built a ResNet Convolutional Neural Network system for classification of cytology breast cancer images with an accuracy of 92 %. Designed a web application prototype for the same using Flask backend.
- Demonstrated the project to the faculty and students of the Computer Science Department of University of Texas at Dallas at their Annual AI Conference 2019.

PROJECTS

Donations Application
- A React Native application for submitting donations to schools in need with a backend that runs on Node JS and a MongoDB Atlas database.

Memories Application
- A React Native application to share memories, set themes according to mutual moods and to cherish random memories. Backend runs on Node JS with a MongoDB Atlas database.

Conversation Generator
- Character and word level Recurrent Neural Network generating plays/scripts and conversations based on historical text.

Sentiment/Suggestion Analyzer
- Classification of product reviews based on user sentiment and whether a review contains a suggestion or not. Applied ULMFiT transfer learning model on top of RNN custom implementation.

EDUCATION

M.S.
Electrical & Computer Engineering
Carnegie Mellon University

Jan '21 – Present Pittsburgh, PA

B.Tech, Electrical Engineering
Delhi Technological University

Aug '16 – Jun '20 Delhi, India

GPA 8.53

SKILLS

Machine Learning, NLP, Algorithms

Java, Python, C++, Javascript

Tensorflow, React-Native, MongoDB

PUBLICATION

- R. Singh, J. Singh, M. S. Gill, R. Malhotra and Garima, "Transfer Learning Code Vectorizer based Machine Learning Models for Software Defect Prediction," 2020 International Conference on Computational Performance Evaluation (ComPE), Shillong, India, 2020, pp. 497-502

RESEARCH

Undergraduate Research Assistant
Dept. of Computer Science, DTU

Oct '19 – Jun '20 Delhi, India

- Bachelor's thesis on Transfer Learning Code Vectorizer for accelerated software development lifecycle. Supervised by Dr. Ruchika Malhotra, Department of Computer Science and Engineering.
- Automated parsing of source codes from open source projects using Python and BeautifulSoup.
- Leveraged ULMFiT architecture to generate features from the text of the source code for software defect prediction.
- Improved performance by 9.05 % compared to SDP models in past literature.

COURSES

- 18786 Introduction to Deep Learning
- 18661 Introduction to Machine Learning
- 18665 Advanced Probability and Statistics