VAIBHAV JAIN

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EDUCATION

University of Southern California
Masters in Computer Science
3.67/4.0 (May 2020)

VIT University, India
Bachelors in Information Technology
8.87/10.0 (2012-2016)

SKILLS

Languages: Java, Python, JavaScript, HTML, CSS, MySQL
Frameworks: React.js, Angular.js, Node.js, Spring, Hibernate, TensorFlow
Tools: Git, Jenkins, Docker, Agile Scrum Framework

COURSES

- Analysis of Algorithms
- Machine Learning
- Natural Language Processing
- Artificial Intelligence
- Applications of Data Mining
- Web Technologies

WORK EXPERIENCE

GRADUATE TEACHING ASSISTANT (Course Producer) June 2019 – August 2019
USC Viterbi School of Engineering

- Worked as a Teaching Assistant for Machine Learning course under Prof. Victor Adamchick.
- Designed programming assignments in Python; topics include Neural Networks, Clustering, Hidden Markov Model, Regression and Decision Tree; created automated submission and grading scripts.
- Held office hours to help students with assignments and related concepts.

SOFTWARE ENGINEER July 2016 – July 2018
Cerner Healthcare Solutions

- Enhanced Cerner's genomics solutions – Millennium Helix® and Lab Sequence using Java, Spring, Hibernate, JavaScript, React.js, Restful APIs, and MySQL to meet client workflows enabling personalized medicine.
- Developed a Jenkins Server for continuous integration leading to a **4X** reduction in human effort by replacing in-house manual code integration application.
- Built an end-to-end WebDAV user management console to remove iBus dependency cutting the cost by **75%.**
- Mentored 6 new interns on technology stack and functional workflows.
- **Awarded** for best performance in Q4, 2017

SOFTWARE INTERN January 2016 – June 2016
Cerner Healthcare Solutions

- Automated data flow of genetic information between system and flat files using C# and JavaScript over HL7 protocol.
- Developed APIs saving **500 hours** of manual data entry operations per client annually.

PROJECTS

Weather Search | Responsive Website (Live) | Android Application (Video)

- Developed a weather search application based on location and user search using Dark Sky and Google APIs.
- Included several features like city autocomplete, adding favourites in local storage, dynamic mining of photos using google custom search; Exposed common REST Endpoints for website and app.
- Technologies: Angular 8, Node.js, Bootstrap, HTML, AWS

Sequence-to-sequence RNN for POS Tagging

- Implemented bi-directional recurrent neural network for part-of-speech tagging of Italian, Japanese and an undisclosed test language; Achieved accuracy of 95.7%, 95.3% and 95.1% respectively.
- Ranked **top 5** amongst class of 193 students for the best model; Technologies: Python, Tensorflow

Non-Zero Sum Game Model for allocating shelter to homeless in LA urban area

- Devised an algorithm to assign applicants to homeless shelter organizations.
- Integrated a combination of artificial intelligence techniques such as iterative deepening search and greedy-heuristic search to reduce search space and speed up the algorithm.
- Optimized using memoization to reduce the run time; Technologies: Python

Autonomous Car Simulation using Reinforcement Learning

- Created a fault tolerant algorithm to find optimal routes for autonomous cars in a custom city grid.
- Performed simulations on car's movement which enabled visualizing large-scale MDP with finite action spaces.
- Modelled using Markov Decision Process framework and dealt with randomness of outcomes utilizing value iterations to find optimal policy for cars; Technologies: Python