VAIBHAV JAIN

Phone +1(213) 357 – 8785   **Address** 1210 W Adams Blvd, # 302, Los Angeles, CA, 90007

vaibhavjain9e.com   vaibhavj@usc.edu   linkedin.com/in/vaibhavjain9e   github.com/vaibhavjain9e

EDUCATION

- **University of Southern California**
  Masters in Computer Science
  3.6/4.0 (May 2020)
- **VIT University, India**
  Bachelors in Information
  Technology
  8.87/10.0 (2012-2016)

SKILLS

Java, Python, JavaScript, React.js, Redux, Spring, Hibernate ORM, RESTful APIs, MySQL, JSON, HTML, CSS, Node.js, Angular.js, TensorFlow, GitHub, SVN, Jenkins, Docker, AWS, Swagger UI 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 – Aug 2019
USC Viterbi School of Engineering

- Worked as a Teaching Assistant (Course Producer) for CSCI 567 - Machine Learning 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 understand 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 and thereby cutting the cost by 75%.
- Mentored 6 new interns on technology stack and functional workflows.

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.
- APIs facilitated users to save 10 minutes per import/export with 50+ operations a week.

PROJECTS

Sequence-to-sequence RNN for POS Tagging (Python, Tensorflow) Github

- Implemented bi-directional recurrent neural network for part-of-speech tagging of Italian, Japanese and an undisclosed test language; accuracy achieved is 95.7% and 95.3% respectively.
- Ranked top 5 amongst class of 193 students for the best model.
- Link: http://sami.haija.org/cs544/scoreboard19/index.html (Student ID: vaibhavj@usc.edu)

Non-Zero Sum Game Model for allocating shelter to homeless in LA urban area (Python) Github

- 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.

Training and visualization of word embeddings using Deep Learning (Python, Tensorflow) Github

- Built a 3-layer neural network over document vectors for classifying more than 10000 reviews.
- Increased generalization accuracy by applying sparse dropout and added an embedding layer to make the model more interpretable.
- Generated a graphical view of trained model by visualizing learned embeddings employing t-SNE and matplotlib.

Autonomous Car Simulation using Reinforcement Learning (Python) Github

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