Ravi Vivek Agrawal

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HONORS AND AWARDS

- **First Position** at National Entrepreneurship Challenge at IIT Bombay
- **Finalist** at Code for Good Hackathon organized J.P.M.C. through which received a summer internship
- **Published** two research paper in **IEEE,** one in **Springer**

EDUCATION

Master of Science in Computer Science **August 2022-Present**
University of Southern California, Viterbi School of Engineering, Los Angeles CGPA: 3.26
Relevant Courses: *Analysis of Algorithms, Machine Learning, Operation Systems, Quantum Computing and Quantum Cryptography, Multimedia Systems, Computational Complexity, Multimodal Probabilistic Learning of Human Communication*

Bachelor of Technology in Information Technology **August 2018-June 2022**
Sardar Patel Institute of Technology, Mumbai, India CGPA: 9.59

WORK EXPERIENCE

Student Developer, Autonomous Networks Research Group USC **May 2023-Present**

- Developing code for **cloud computing scheduling** algorithms as part of team **Saga: S**cheduling **A**lgorithms **Ga**thered.
- Developing code for **various reinforcement learning agents** as part of team **SafeCampusRL**.

Data Analyst Virtual Intern, GlobalShala **October 2021-November 2021**

- Data Visualization internship at GlobalShala in association with Saint Louis University
- **Analysed Facebook ad data** to provide insights regarding various ad campaigns to the finance department, using **Tableau** and **Scatterpolar** and various other plots using **Plotly** and **Sklearn**

Summer Intern, JPMorgan Chase & Co **May 2021-July 2021**

- Interned in **Software Engineering Program** of the Private Banking division of Asset & Wealth Management Department
- Collaborated to work with big data and helped with standardising various data models of different data platforms into a unified format for ease of integration and developing a consistent "source of truth", using a **Springboot** application to **automate the CICD pipeline** with the help of **Jules** and **Jenkins** and **python** to extract data and from various files to form a consistent new source.
- Led to **automate process of job scheduling** and maintaining source control in JIL (Job Interpretations Language) files

Teaching Assistant, Sardar Patel Institute of Technology **January 2021-May 2021**

- Selected as a **Teaching Assistant** for PSIP (Problem solving using Imperative Programming) Lab in **C language** for first-year students of Electronics branch
- Conducted doubt clearing sessions and prepared tests for the course

ACADEMIC PROJECTS

Weenix Operating System (Team Size: 4) **January 2023**

- Implemented fundamental features of the Operating System such as **Processes and Threads**, **Virtual Filesystem** and **Virtual Memory** through C programming.
- Operated with important **C programming** constructs, including **function pointer polymorphism**, and gained an in-depth understanding of process address spaces, parallelization, and **synchronization**

Intelligent Call Prioritization based on Speech Emotion Recognition (Team Size: 3) **September 2021**

- Implemented **BERT** for text-emotion extraction having an **82**% accuracy and **Random Forrest** for Speech Emotion Recognition having a **90%** accuracy
- Developed an algorithm to efficiently assign callers in a waiting queue for suitable agents using **emotion based routing**
- Research paper is published in **Springer**
- Tech Stack: **Python**, **Tensorflow**

Image Enhancement Using Auto Encoders (Team Size: 4) **April 2021**

- Image Enhancement was done using an **Auto Encoders Model**
- Tech Stack: **Python**, **Tensorflow**

Music Generation Using Deep Learning (Team Size: 4) **April 2021**

- Using **LSTM** and **wavenet** to create a model that generates music of different genres similar to that of human composition
- Tech Stack: **Python**, **Tensorflow, Tkinter**

Road Classification and Subsequent Pothole Detection (Team Size: 3) **November 2020**

- Created a custom CNN model to first classify images into different classes based on road type with a **92%** accuracy and then detect potholes using object detection model with a **89%** accuracy (YOLO) trained on potholes of corresponding road surface type
- Deployed a mobile app where the potholes where dynamically updated and reflected using **Google Maps API**
- Tech Stack: **Python**, **React**, **Node.js**, **express**, **MongoDb**, **Flutter**

TECHNICAL SKILLS

Languages: Java, **C**, C++, Dart, **Python**, HTML, CSS, JavaScipt, TypeScript, PHP, XML, SQL
Frameworks: React.js, Django, **Springboot**, JSP, **Flutter**, Visual Basic, TensorFlow, Darknet YOLO
Databases: MySQL, PostgreSQL, PHPMyAdmin, MongoDB, Firebase, Firestore, Hadoop
Certifications: Game Theory (NPTEL, IIT Bombay)**; Microsoft Azure Fundamentals** (E&Y)**, Microsoft AI Azure Fundamentals** (E&Y)**, Blockchain Basics** (Coursera, University of Buffalo)