SHAIL PATEL

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EDUCATION

Master of Science, Computer Science- San Francisco State University, CA| **GPA: 3.7/4** **August 2023-May 2025**
Bachelor of Science, Computer Science- Vellore Institute of Technology, India | **GPA: 3.4/4** **August 2019-May 2023**

SKILLS

Programming Languages: Python, JavaScript,C , C++, Java, Swift
Frontend Web Technologies: HTML, CSS, React , Bootstrap
Tools and IDE: Git, JIRA, Postman, Docker
Databases: MySQL, Oracle DB, MongoDB
Backend Web Technologies: Django, Node.js, Express, RestAPI
Cloud Technologies: AWS (Certified Practitioner), Azure

WORK EXPERIENCE

Software Development Engineer Intern | Flowjet Valves Ltd, India (Python, Django, MongoDB) **January 2022-May 2023**

- Worked as a Software Development co-op intern in the Information Technology department of this valve manufacturing industry.
- Utilizing machine learning algorithms, a 30-day demand forecast for a product was generated. This forecast, which achieved approximately 70% accuracy on real-time seller data, can assist in choosing a location that can fulfill the order.
- Also worked on the backend development and database management of the company E-commerce portal using Django and MongoDB.
- Built API endpoints for the website and reduced database latency by 45%.

Graduate Teaching Assistant | San Francisco State University, CA **January 2024-May 2024**

- Working as a Teaching Assistant for the graduate level upper course CSC 810 – Analysis of Algorithms II by Prof. Timothy Sun.
- Assisted in instructing a class of 48 graduate students. Responsibilities included developing and grading homework assignments, midterms, and finals, along with crafting comprehensive questions for assignments to enhance students' understanding of complex algorithms. Demonstrated skills in assessment, communication, and academic support.

Graduate Research Assistant | San Francisco State University, CA (Python, TensorFlow, Keras, NumPy) **August 2023-December 2023**

- Worked as a Research Assistant under the guidance of Prof. Hao Yue.
- Conducted Research on a network-based inference method to accurately detect phishing URLs camouflaged with legitimate patterns, i.e., robust to evasion.
- Proposed method consistently showed better detection performance throughout various experimental tests than state-of-the-art methods, e.g., F-1 score of 0.89 for our method vs. 0.84 for the best feature-based method.

Data Science Intern | The Sparks Foundation, Singapore **August 2021-September 2021**

- Engaged in the development and implementation of Supervised Machine Learning models, utilizing algorithms such as Logistic Regression, Support Vector Machine (SVM), and K-Nearest Neighbors to analyze and derive insights from real-life datasets.
- Implemented Machine Learning algorithms and VGG16 architecture of CNN model to achieve an accuracy of around 90%.
- Acquired expertise in conducting comprehensive Exploratory Data Analysis (EDA) on large datasets, employing advanced data visualization techniques for both univariate and bivariate analysis.

PROJECTS

EduBridge: A Learning Management System (MySQL, Express, React, Node.JS, Jira, AWS)

- Spearheaded the development of a comprehensive Learning video streaming application, EduBridge, utilizing the MERN stack. This project mirrors Canvas' functionality, offering video uploading, sharing, and real-time streaming capabilities.
- Orchestrated project workflow and task management using JIRA, aligning with Agile methodologies to ensure timely deliveries and iterative feedback incorporation. Backend API endpoints and features using Nodemailer and multer.
- Integrated MongoDB for efficient data storage, coupled with Express and Node.js for scalable backend services. Deployed using AWS EC2. Crafted an interactive front-end experience with React, optimized for performance and cross-browser compatibility.

RunOut (Python, PyGame)

- Led the development of an innovative action maze chase Human-Computer Interaction (HCI) application using Python and Pygame.
- This project featured the implementation of an AI-based opponent that dynamically follows the player, using the A* algorithm to determine the optimal path based on the player's movements. Designed and implemented a user-friendly GUI to enhance user engagement and experience.

Simulation of Molecular Dynamics (C++, OpenMP library)

- Led a sophisticated project focusing on the simulation of molecular dynamics involving N particles, employing C++ and the OpenMP library. The project entailed developing both sequential and parallel algorithms to study the interactions between particles under a two body potential of finite range.
- Key achievements included successfully optimizing the simulation for parallel execution using OpenMP, which enabled a comparative analysis of performance between sequential and parallel processing. This work demonstrated not only proficiency in C++ programming and parallel computing but also a deep understanding of physical simulation and performance optimization techniques in computational science.