Jay Patil

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Education

Rutgers University, New Jersey – *Master of Science in Computer Science* **Sept 2022 - May 2024**

COURSES: Algorithms, Machine Learning, Distributed Systems, OS, DBMS CGPA: 3.65/4.00

Pune Institute of Computer Technology, Pune – *Bachelor of Engineering in Computer Engineering* **Aug 2016 - June 2020**

COURSES: Advanced Data Structures, Computer Networks, Computer Architecture CGPA: 8.97/10.00

Skills

Languages: Python3, JavaScript, SQL, C, C++, C#, Java, HTML, CSS, TypeScript

Web Technologies: NodeJS, ReactJS, ExpressJS, Angular, Flask, Firebase, NextJS, Web3, Google O'Auth

Tools and Frameworks: Git, Azure, Docker, MSSQL, Terraform, Puppet, JIRA, .NET, TFS, Elasticsearch, Moralis

Experience

Antonina Mitrofanova Lab – Research Assistant, Software Developer **Sept 2022 – Current**

- Designed and developed a **user-engaging and cross-browser compatible** web application for data visualization of complex splicing networks using HTML, CSS, TypeScript, Angular, and Cytoscape.js.
- Assisted in data collection, analysis and interpretation of Gene Data using Python and statistical techniques.

Veritas Technologies LLC – Software Engineer, Full Stack **Sept 2020 – Jul 2022**

- Worked in a collaborative culture with the Enterprise Vault.cloud team to develop a frontend user interface of Veritas Alta to facilitate the data discovery from major data sources like Slack, Teams, Outlook, OneDrive, Bloomberg, etc.
- Took the ownership to update old code base to modern development standards, **reducing loading time** of the application by **46%** using HTML/CSS, JavaScript, Angular and C#. Resulted in **big influx of new customers**.
- Implemented REST API-centric architecture using C# to **enhance retrieval of data** from Azure Blob storage in .NET by **27%**.
- Designed database, backend and developed stored procedures using SQL in MSSQL for efficient database management.
- Coordinated **efficient large-scale features deployments** using Terraform and Puppet and managed CI/CD using TFS.

Espressif Systems – Project Intern, Embedded Software Development **Jun 2019 – Jun 2020**

- Beat Google to port TensorFlow model to ESP-32 microcontroller having a **memory of mere 4MB** and achieving the task more efficiently. **Reduced the size** of an object detection model by **28%** by converting it to TensorFlow Lite model.
- Designed a Blind Aid System using C to **help visually impaired people** identify nearby objects by mounting the ESP-32 micro-controller on the user's walking stick and fixed haptic sensors to provide haptic feedback of any danger to the user.

Projects

Attention Mechanisms in Image Captioning

- Led a comprehensive comparative analysis of RATT, XLAN, and Dual Attention models in Computer Vision. Utilized TensorFlow and PyTorch frameworks to meticulously implement and fine-tune the models. Employed the METEOR metric to assess the quality of complex texts, providing nuanced insights into the strengths and potential areas for enhancement of each model.

Decentralized Finance Dashboard

- Developed a De-Fi dashboard that allows user to track live crypto prices such as BitCoin, Ethereum, MayaPreferred, etc. by leveraging Web3 API's. Seamless connection to wallets such as MetaMask, TestNet etc. allows user to view all asset balances, transactions. Implemented Google O'Auth to add a security layer to the application. Built using, NextJS, MySQL, Wagmi.

Collaborative Editor

- Designed and developed a real-time collaborative editor that enabled multiple users to edit, collaborate and improve content simultaneously using Operational Transformation. Used HAProxy as Load Balancer to support substantial traffic loads and to make the application easily scalable. Implemented publish subscribe message broker functionality using Redis.

Awards & Recognition

- Award for 'Team Collaboration and Inclusion' for collaboration with teams across the globe at Veritas.