Srinivas Mulagala

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Education

Rice University 08/2023 - 12/2024
Master's in Computer Science ***GPA: 3.8 / 4.0***

Gitam University 06/2019 - 04/2023
Bachelor of Technology in Computer Science and Engineering ***GPA: 9.2 / 10.0***
- Graduated with Distinction

Experience

Rice University (Houston, TX) ***Research Scientist*** 05/2024 - Present

- Led the development and deployment of a community-based web application, delivering a functional prototype within a **3-month** timeframe. Managed the full software development lifecycle, from requirement gathering through to deployment and maintenance.
- Developed rate-limiting functionalities to handle up to **1,000** requests per minute, significantly reducing server overload. Improved handling of malformed AJAX requests, enhancing system stability and reliability under peak loads.
- Performed detailed security audits on existing web applications, identifying and rectifying **15** critical vulnerabilities related to **SQL injection** and **XSS**. Designed and implemented security patches to safeguard user data and enhance compliance with modern web security standards.

Rice University (Houston, TX) ***Teaching Assistant (COMP 541)*** 12/2023 - 04/2024

- Collaborated with Prof. Joyner in **Computer Security**, enhancing students' skills in software security through targeted exercises. Enabled mastery of offensive/defensive tactics, significantly improving course engagement and comprehension.
- Led students in executing buffer overflow attacks and exploiting web vulnerabilities, directly contributing to a **20%** increase in student's practical security skills assessment scores.

MPB Ark Exim (VSKP, IND) ***Software Development Intern*** 03/2023 - 08/2023

- Engineered and optimized scalable APIs and background processes, achieving industry-leading **25ms** response times, by leveraging advanced technologies such as **React, Node.js, and MongoDB**. Significantly improving data exchange efficiency between front-end and back-end systems, enhancing user experience.
- Spearheaded end-to-end development and testing of **5+** key products, from initial requirements gathering to deployment, utilizing Agile methodologies.
- Redesigned web application security frameworks by implementing OAuth 2.0 for authentication and authorization, enhancing security protocols and strengthening user access controls by **10%**, mitigating potential security breaches.

Bluepad (BLR, IND) ***Machine Learning Intern*** 01/2023 - 08/2023

- Leveraged advanced data mining and analytical techniques with **Matplotlib, Seaborn, Tableau, and Python**, driving strategic decisions by uncovering key user behavior trends. This analytical approach led to a **15%** improvement in content curation, significantly enhancing user engagement and satisfaction.
- Applied ensemble learning techniques, including Random Forests and Gradient Boosting, to enhance content recommendation models. Thereby increasing accuracy by **13%**, directly contributing to a more personalized user experience.
- Innovated with deep learning architectures, particularly **RNNs** and **LSTM** networks, to refine content recommendation algorithms, achieving a **18%** boost in prediction accuracy. This enhancement led to higher user retention rates.

Projects

- **IPL Auction:** Engineered a sophisticated **MERN Stack** Application accurately simulating the dynamics of an IPL Auction, encompassing complex technical components. Employed advanced techniques, including RSS feed integration for real-time news retrieval, and web scraping using Puppeteer to acquire and process squad data.
- **Melasma Detection Using Neural Networks:** Investigated an extensive evaluation of various neural network methodologies using **Tensorflow** to ascertain the most effective approach to detect Melasma. Conclusively established the superiority of RNN over alternative neural network architectures. Published findings in **IEEE**, contributing valuable insights to dermatological image analysis and pattern recognition.
- **Efficient Hashing Using Huffman Coding:** Pioneered a novel fusion of hashing and Huffman coding to boost data manipulation efficiency and optimize space utilization. Showcased expertise in extending hashing techniques, and significantly reducing memory consumption for HashMaps through research and algorithm implementation.

Achievements

- Secured a contest rating of **1852 (Top 5%)** on Leetcode (**Python/Java**).
- Designed IPL Auction which secured **3rd place** in the nation wide 24 Hour Hackathon organized by Vignan University.
- Achieved a rank of **4 star** on Codechef (Competitive Coding - **Java/C++**).
- Received a **25%** scholarship for academic performance during my bachelor's.

Skills

Languages: Python, JavaScript, Java, C++, Data Structures, Algorithms
Software Development: Reactjs, Typescript, jQuery, Bootstrap, Node.js, Docker, Kubernetes, REST, Model View Controller(MVC), SQL, MySQL, PostgreSQL, NoSQL, MongoDB, SaaS, Networking, Scrum, Agile, Site Reliability, UI/UX
Machine Learning: NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, Keras, NLTK, Spacy, OpenCV, Matplotlib, Seaborn
Tools/Platforms: Git, Linux, Shell Scripting, Hadoop, Wireshark, Tableau, CI/CD, AWS, Object Oriented Programming