

Manoj Nandakumar

Stony Brook, NY

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Education

SUNY at Stony Brook

MS in Computer Science

Stony brook, NY

Aug 2022 - Apr 2024 (expected)

- Subject: Operating System, Theory of Database Systems, Computer Vision, Artificial Intelligence.

SRM Institute of Science and Technology

B.Tech in Computer Science Engineering

Chennai, India

Jun 2018 - May 2022

- Subject: Design and Analysis of Algorithm, Advance Programming Practice.

Work Experience

Fresh Digital

Chennai, India

Software Developer { ExpressJS, ReactJS, MongoDB, Kubernetes, Docker, Jenkins }

Aug 2021 - Aug 2022

- Collaborated with a marketing firm to create a streamlined process for automated targeted marketing using the MERN stack, **resulting in an 40% average conversion rate.**
- Developed a user-friendly SaaS Dashboard in the marketing product, reducing client **onboarding time by 50%.**
- Enhanced server workflow by implementing CI/CD pipelines with HPA(Kubernetes) for automated deployments Achieving **zero downtime.**

Dataviss Analytics

Chennai, India

Backend Developer Intern { ExpressJS, MongoDB, Node-RED, Linux }

Jan 2021 - Apr 2021

- Developed back-end flow using ExpressJS for a NOKIA product, handling **50 million data points** to enable successful IoT solutions.
- Optimized existing system architecture by 20%, increasing performance speed of analyzing large data-set by 40%** by upgraded existing aggregate pipelines.
- Implemented **Kafka** for real-time data streaming and integrated it into the **system for logging and analyzing critical system metrics.** Developed a technical dashboard for in-depth analysis of edge device performance.

Mavoix

Bangalore, India

Deep Learning Intern { Python, Selenium, TensorFlow, NLP, Keras }

Aug 2020 - Nov 2020

- Developed a search and filtering system utilizing knowledge graphs to enhance content discoverability within an educational video repository at Mavoix, Bangalore.
- Automated web scraping with **Selenium and YouTube API, Automated web scraping** processes using Selenium and YouTube API, significantly reducing manual intervention, streamlining daily record processing, and enhancing metadata creation efficiency.
- Successfully deployed deep learning pipelines for video analysis, achieving an impressive 95% accuracy rate in metadata generation during the internship at Mavoix.

Skills

Programming

Python(TensorFlow,Flask), JavaScript, NodeJS(ExpressJS, ReactJS, VueJS), Dart(Flutter), JQuery, Web Development(HTML, CSS), CPP, Java, MongoDB, SQL(DB2, MySQL).

Cloud

Apache, Ubuntu, Docker, Kubernetes, AWS, CICD (Jenkins, Git, PM2), Linux, Firebase.

Miscellaneous

OS, RAFT(Distributed System), Shell, LaTeX.

University Projects

ReDoS Fuzz: Regexp Denial of Service in JavaScript

Stony Brook, NY

SUNY at Stony Brook

Aug 2023 - Dec 2023

- Developed a gray box fuzzer with the objective of generating input to inducing a ReDoS (Regular Expression Denial of Service) attack.
- Used Backtracking feature of JavaScript regex engine to run regex matching in exponential time complexity to trigger ReDoS.
- Replicated the Regex engine and added hooks to get the regex coverage and generated input based on the coverage.

Beloved Local Businesses

Stony Brook, NY

SUNY at Stony Brook

Aug 2023 - Dec 2023

- We analysis and understood factor that make business loved locally and sustainability of local businesses.
- Analyzed 15000 business in San Francisco to get external factor affecting the sustainability of business.
- Scraped Comments of google review and yelp of all businesses and build a NLP based scoring system to get community score using New York loved business lists comments.
- We shorted listed 31 businesses that were loved by the community but at the risk of closure by geographical and economical factor.

SAM: Enhancing the responsiveness of the Linux CFS scheduler

Stony Brook, NY

SUNY at Stony Brook

Apr 2023 - May 2023

- SAM is a fair scheduler that attempts to enhance the interactive responsiveness of CFS, by introducing an interactivity scoring mechanism inspired by ULE.
- Ran benchmark assessments for evaluating performance enhancements in both single-threading and multi-threading approaches across multiple applications, contributing to informed decision-making and performance optimization strategies.

Image Stitching with SIFT descriptor

Stony Brook, NY

SUNY at Stony Brook

Nov 2022 - Dec 2022

- Built a framework to stitch images with SIFT descriptor using Python & Open-CV libraries.
- Application produced panoramic images and blended the seam using Laplacian blending.
- Achieved 100 % success rate on 400+ test cases at different levels of complexity.