

Achyuth Rao Sandhyavandanam

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A **Software Developer**, with **7+** years of experience in **Web Development and Distributed Systems** and a niche for **Designing and Developing High-Performance, Fault-Tolerant Software**

Technical Skills

Languages: Rust, Golang, Python, Javascript/Typescript

Databases: PostgreSQL, Redis, Cassandra, DuckDB

Developer Tools: Git, Docker, Kubernetes,

Miscellaneous: Kafka, LibP2P, WebAssembly(WASM)

Experience

Senior Software Engineer (Rust)

Mar 2023 – Present

Aktivolabs Digital Health Pvt. Ltd.

- Implemented Parsing and generating PDFs of ECG Data at scale
- Developed Real-time Data Pipelines for processing Health data from different sources enabling tracking over 10 million Health Metrics data points per month
- Implemented background processor to asynchronously process scheduled jobs and ad-hoc jobs, to improve efficiency and user experience
- Implemented GraphQL endpoints for computing and retrieving Health data from Trackers

Software Development Engineer - 2 (Fullstack)

Nov 2019 – Mar 2023

Optmyzr Technologies Pvt. Ltd.

- Developed a Caching Framework for Amazon Ads Reports in Rust, achieving a 70x speed improvement, and built tools for reporting, automation, rule engine, and optimizations, serving over 250 users.
- Developed a scoring system for Google Ads and Analytics segments and a gamified reporting dashboard to prioritize key metrics.
- Wrote automation scripts to retrieve and store Accounts' performance reports for Data Analysis in Rust

Software Design Engineer

Aug 2017 – Aug 2018

Merkle Sokrati Pvt. Ltd.

- Created a web dashboard with OAuth2.0 and user access controls, reducing reliance on developers for enterprise data access.
- Developed enhanced features for an In-House Customer Relationship Management Software using AngularJS, Node.js, PHP, and MySQL, optimizing its functionality.
- Automation and integration of the CRM with Pipedrive, KookooDialer and various other third-party platforms - eliminated manual work and streamlined the process increasing the efficiency by 50% for the customer

Projects

Detection of DDoS in SDN | *Python, Numpy, Pandas, OpenFlow, Elasticsearch Logstash Kibanna*

- Led a team of 4 to implement various Machine Learning Algorithms in Python such as the SVM, Entropy-based Discretization and Fuzzy C-Means for DDoS detection in SDNs
- Achieved an accuracy of more than 90%
- Won the 2nd prize in the Open-Source category in a national level competition

Asynchronous Decentralized Cooperative Path-Planning | *Python, Matplotlib, Multithreading*

- Implemented the Interruptable Multi-agent Asynchronous Decentralized Space-Time cooperative algorithm for path-planning in Python, resulting in a 60% speed improvement over the prior solution.

Parallelizing Support Vector Machine | *Python, Numpy, LibSVM, SKLearn*

- Engineered a parallelized SVM model, leveraging the parallel interior-point method, to optimize the training phase; resulting in a 24% improvement in training speed, enabling faster decision-making and enhanced productivity.

Education

Savitribai Phule Pune University
Bachelor of Engineering in Computers

Pune, India
2013 – 2017

Publications

An article in the Journal of The Institution of Engineers (India): Series B, Springer: Detection of DDoS Attacks in SDN using Support Vector Machine Entropy-Based Discretization and Fuzzy C-Means Clustering

Interests

Distributed Systems, Cryptography, Web-3, Artificial Intelligence, LLMs, RAG, Web Technologies