

# Saivenkat Ajay D.

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## Education

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### University of Florida

Master of Science in Computer Science

May 2025

**Relevant Courses:** *Data Structures and Algorithms, Databases, Software Engineering*

### Manipal University Jaipur

Bachelor of Science in Information Technology

May 2023

**Relevant Courses:** *Operating Systems, Object-Oriented Programming*

## Languages and skills

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**Languages:** Go, Python, Java, C++

**Technologies and Frameworks:** Git, React, Linux, Docker, SQL, AWS, Flask, Oauth, XML, JSON

**Skills:** Data Engineering, AWS, CI/CD, Agile Development, Unit and Integration Testing, REST APIs

## Experience

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### Terra Economics and Analytics

Data Engineering Intern (Transformations)

(June 2022 - August 2022)

**Tech-Stack:** Python, Pandas, Postgres, AWS

- Spearheaded the execution of the **ETL** process for transforming multiple large-scale property deeds databases, ensuring seamless data extraction, transformation, and loading into the company's systems
- Maintained more than **95% parsing accuracy** across transformed datasets, by implementing regex techniques during the data transformation phase of the ETL process
- Revamped the company's proprietary data transformation framework, **enhancing parsing accuracy from 5% to 95%** in previously underperforming areas through meticulous debugging and analysis

## Projects

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### goManageDocker – UI to manage docker objects ([github.com/ajayd-san/gomanagedocker](https://github.com/ajayd-san/gomanagedocker))

- Built a feature-rich TUI tool in **Go** for performing tasks like listing, deleting, running, execing, scouting on docker objects
- Reduced average object management time by approximately **15 seconds** by implementing VIM motions for navigation and sensible key bindings for various actions
- **Stress tested** the application using bash scripts to investigate and fix 2 race conditions during startup
- Integrated **CI/CD pipeline** using GitHub Actions to **automate** testing and deployment process
- Successful open-source project with **over 500 Github stars and 2000 downloads**

### Metered API server ([github.com/ajayd-san/metered-api-server](https://github.com/ajayd-san/metered-api-server))

- Engineered a performant async API server using Rust with inbuilt mechanisms to generate and track API keys
- Deployed to an **AWS EC2** instance using docker containers to ensure easier development and deployment
- Used Inter-Thread communication channels to eliminate race conditions during quota updation on Postgres database

### EasyTorch - Pytorch framework ([github.com/ajayd-san/easyTorch](https://github.com/ajayd-san/easyTorch))

- Devised and built an easy-to-use Pytorch framework for image classification tasks by employing the **OOP** paradigm
- Adopted widely used techniques like **unit testing** and **static typing** to facilitate easier development

## Open Source Contributions

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### Flask

- Investigated and minimized faulty static typing error frequency by **20%** by rectifying typing definitions of methods
- Diversified supported variable types in Flask's JSON encoder by suggesting ways to add Decimal object support

### Redis

- Identified and resolved system hang issues in Genetic Object Mapping caused by missing redisjson installation.