

# Rahul Pavithran

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## Education

### Master of Science, Computer Science

New Jersey Institute of Technology (GPA: 4.00 / 4.00)

Jan 2023 – May 2024

Newark, NJ

- **Relevant Coursework:** Data Structures and Algorithms | Database Management System Design | Image Processing and Analysis | Machine Learning | Artificial Intelligence | Operating System Design | Cloud Computing | Applied Statistics

### Bachelor of Technology, Computer Science and Engineering

Anurag Group of Institutions (CGPA: 9.46 / 10.00)

Aug 2016 – Jun 2020

Hyderabad, India

## Experience

### ValueLabs

Senior Software Engineer

Jun 2020 – Jan 2023

Hyderabad, India

- Engineered critical fixes across the stack for PHP/Magento2 E-commerce service of prominent dessert brand.
- Synthesized Python Flask REST APIs and data migration scripts for AI-based RFT annotation portal hosted on AWS, automating data transfer from AirTable to MongoDB with 35% improved efficiency.
- Commanded E2E development of Python CKAN based data portal on Azure (AKS, DevOps), working closely with stakeholders to integrate diverse data sources and features, while reducing resource requirements by 50%.
- Coordinated with cross-functional teams in building a robust Smart Contract, scalable Express.js REST APIs and a CLI control panel in Node.js for a Blockchain STO Portal, doubling token control accessibility.
- Delivered multiple Python based document processing solutions enhanced by Tesseract OCR with fine-tuned LSTM engine, reducing digitization time by 20%.
- **Awards:** ValueLabs Star of the Month - Mar 2022 | ValueLabs Superstar of the Quarter - Jan 2022 | ValueLabs Superstar of the Quarter - Dec 2020

### ValueLabs

Intern

Dec 2019 – Mar 2020

Hyderabad, India

- Composed unit tests for feature additions on ASP.NET MVC project utilizing xUnit testing framework, reducing development load and improving test coverage by 5%.

### SmartBridge

Machine Learning Engineer - Intern

Mar 2019 – Jun 2019

Hyderabad, India

- Mentored over 150 students on fundamentals of Machine Learning and Exploratory Data Analysis utilizing industry-standard Python frameworks.

## Skills

**Programming Languages:** Python (>10,000 lines), JavaScript (TypeScript), HTML & CSS, Go, SQL, C#, C++, Rust, PHP

**Frameworks & Libraries:** Flask, CKAN, SQLAlchemy, NumPy, Pandas, Matplotlib, Scikit-Learn, PyTorch, Keras, TensorFlow, OpenCV, React, Express.js, Node.js, Web3.js, ASP.NET, Apache Solr

**OS & Cloud Services:** Linux, Docker, Kubernetes, AWS S3, AWS Lambda, Amazon API Gateway, AWS Elastic Beanstalk, AWS Cloudfront, Azure Datalake, Azure Kubernetes Services

**DevOps & Tools:** Jira, Confluence, Bitbucket, Azure DevOps, GitHub, Gitlab, CI/CD, LaTeX, Visual Studio Code, Jupyter

**Databases:** PostgreSQL, MySQL, MongoDB, DynamoDB

## Projects

**SEP Event Prediction using LSTM-based Time-Series Modelling** | Python, NumPy, Pandas, matplotlib, scikit-learn, PyTorch, Jupyter

- Formulated various LSTM based models in PyTorch to predict solar energetic particle (SEP) events, trained on NOAA GOES satellite data with heavy class imbalance.
- Constructed Ivy, a Python module to automate ML model training and performance graph generation, reducing execution and asset management efforts in this project by 60%.

**Real-time Traffic Detection** | Python, NumPy, matplotlib, PyTorch, Jupyter

- Proposed and analyzed the use of neural network implementations based on YOLO series architecture for complex traffic detection of diverse road entities with >80% accuracy.
- Presented research paper at 2024 IEEE International Conference on Advanced Systems and Emergent Technologies (IC.ASET 2024).

## Campus Activities

### NJIT Ying Wu College of Computing

Graduate Tutor, Algorithms and Machine Learning

Jan 2024 – May 2024

Newark, NJ

- 1 of 5 tutors chosen college-wide to aid students in fundamentals of Data Structures, Algorithms and Machine Learning.
- Orchestrated online and in-person academic guidance, increasing engagement by 30%.

### NJIT Department of Residence Life

Assistant to Residence Hall Coordinator

Sep 2023 – May 2024

Newark, NJ

- Generated positive feedback from residents and management while handling administrative duties and resident concerns.
- Resolved over 4 health and safety emergency scenarios, demonstrating critical thinking abilities under pressure.