Rahul Pavithran

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Skills

Programming Languages: Python, JavaScript, TypeScript, HTML & CSS, Golang, SQL, Solidity, C#
Databases: RDBMS - PostgreSQL, MySQL, AirTable | NoSQL - MongoDB
Frameworks & Libraries: Flask, CKAN, SQLAlchemy, boto3, ortools, NumPy, Pandas, Matplotlib, Scikit-Learn, PyTorch, Keras, TensorFlow, Tesseract, Angular, jQuery, Express.js, Node.js, Web3.js, sequelize, Bootstrap, ASP.NET
OS & Cloud: Linux, Docker, Kubernetes, Helm | AWS - S3, Lambda, API Gateway, Elastic Beanstalk, Cloudfront | Azure - Datalake, AKS, AD
Tools: CI/CD - GitHub Actions, Azure DevOps | Version Control - GitHub, Gitlab, Bitbucket | Jira | Confluence

Experience

NJIT Ying Wu College of Computing Jan 2024 – May 2024
Graduate Tutor, Algorithms and Machine Learning *Newark, NJ, USA*

- Selected as one of five tutors college-wide to aid students in Data Structures, Algorithms, and Machine Learning fundamentals
- Organized and facilitated online and in-person academic guidance sessions on ML workflows, boosting student engagement by 30%

ValueLabs Jun 2022 – Jan 2023
Senior Software Engineer *Hyderabad, TG, IN*

- Enhanced PHP Magento2-based e-commerce platform for a popular dessert brand via SonarQube integration into CI/CD pipeline and critical full stack optimizations, improving customer checkout rates by 17%
- Developed Flask REST APIs and Python data migration scripts for an AI-driven RFT annotation portal on AWS, automating transfer of NLP generated annotations on AirTable to MongoDB backend, achieving a 28% increase in operational efficiency
- **Awards**: ValueLabs Spot Award - Jun 2022

ValueLabs Jun 2020 – Apr 2022
Software Engineer *Hyderabad, TG, IN*

- Led Python CKAN based data management portal development, collaborating with business stakeholders to integrate diverse data sources and features for geospatial data support, restoring project profitability and client satisfaction
- Optimized Azure Kubernetes deployment with improved cluster organization using redesigned Helm charts, reducing resource costs by 48%
- Engineered regulatory-compliant Solidity smart contracts and scalable Express REST APIs leveraging Web3.js for a Node.js based blockchain Security Token Offering (STO) portal hosted on AWS Elastic Beanstalk, enhancing token control accessibility
- Pioneered Python-based OCR solutions for Swedish document processing, incorporating Tesseract with fine-tuned LSTM backend, resulting in a 22% reduction in document digitization expenditure
- **Awards**: ValueLabs Star of the Month - Mar 2022 | Superstar of the Quarter - Jan 2022, Dec 2020

ValueLabs Dec 2019 – Mar 2020
Intern *Hyderabad, TG, IN*

- Created an ASP.NET-based e-commerce web application, incorporating jQuery AJAX, KnockoutJS and Entity framework to facilitate server-side Pagination, achieving fast and dynamic store list retrieval and rendering
- Produced production-ready unit tests for ASP.NET MVC project features utilizing xUnit testing framework, boosting test coverage by 5%

SmartBridge Mar 2019 – Jun 2019
Machine Learning Engineer - Intern *Hyderabad, TG, IN*

- Mentored over 150 students in Machine Learning, Exploratory Data Analysis and Data Visualization, employing industry-standard Python libraries such as NumPy, Pandas, Matplotlib and Scikit-learn

Education

Master of Science, Computer Science Jan 2023 – May 2024
New Jersey Institute of Technology (GPA: 4.00 / 4.00) *Newark, NJ, USA*

- **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 Aug 2016 – Jun 2020
Anurag Group of Institutions (CGPA: 9.46 / 10.00) *Hyderabad, TG, IN*

Projects

LSTM-based Time-Series Modelling for SEP Event Prediction | *Python, NumPy, Pandas, Matplotlib, Scikit-learn, PyTorch, Jupyter*

- Formulated LSTM based deep learning models in PyTorch to predict solar energetic particle (SEP) events, trained on sensor-based sequential data while minimizing impact of heavy class imbalance
- Crafted Python module to manage ML model training instances and evaluation plot generation with workflow features including early stopping and model checkpoints, reducing project asset management and execution efforts by 58%

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

- Designed neural network implementations based on YOLOv5 and YOLOv8 computer vision model architectures for complex traffic detection, achieving >80% detection accuracy under various environmental conditions
- Published research paper in the 2024 IEEE International Conference on Advanced Systems and Emergent Technologies (ICASET 2024)

Pass-Man | *Golang, crypto*

- Constructed a terminal-based multi-vault password manager in Golang for local storage of domain-based password profiles, secured with AES-256 GCM encryption algorithm sequence