Harshitha Puttaswamy

Binghamton, NY (Willing to relocate) | (716) 612-0339 | harshi2680@gmail.com
linkedin.com/in/harshitha-p | github.com/harshithaputtaswamy | harshithaputtaswamy.github.io/portfolio/

Dynamic and results-driven Computer Science graduate student with expertise in software development, full-stack design, CI/CD pipelines, and machine learning. Experienced in developing scalable solutions using frameworks like MERN, Django, and NextJS, with interests in reinforcement learning and cloud technologies. Demonstrates leadership in projects, performance optimization, and collaboration in fast-paced environments.

EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Master of Science in Computer Science *December 2024*
Relevant Coursework: High Performance Computing, Distributed Systems, Design and Analysis of Computational Algorithms, Operating Systems, Computer Architecture, Science of Cybersecurity, Intro to Deep Learning

TECHNICAL SKILLS

Programming Languages and DB: C, Python, Java, JavaScript, TypeScript, MongoDB, PostgreSQL, MYSQL, Firebase
Frameworks and Software's: AWS, Amazon Bedrock, AWS Lambda, Dynamo DB, EC2, ExpressJS, ReactJS, NodeJS, Django, CI/CD, Pytest, Git, Linux, Kubernetes, TensorFlow, Keras, Pytorch, Pandas, Jupyter Notebook, Google Colab

PROJECT EXPERIENCE

Splitwiser – A Splitwise clone | Full Stack Development, LLM *June 2024 - Present*

- Created a Splitwise-inspired application featuring receipt scanning via camera or file upload, group and non-group expense tracking, and dynamic graphical and manual split functionalities.
- Leveraged Google Gemini API to convert receipt images into JSON data, to facilitate graphical expense visualization.
- Utilized NextJS for UI and API development, Google Firebase for backend services, and Firestore for storing receipt data.

Iterative voting for committee selection with Multi-Arm Bandits | Research Project *June 2024 – December 2024*

- Designed and implemented a dynamic Multi-Armed Bandit (MAB) framework to model iterative decision-making processes, optimizing voter utilities and drawing parallels to complex bidding strategies in ad platforms.
- Developed scalable algorithms for strategic optimization in multi-agent systems, leveraging Integer Linear Programming (ILP) to solve resource allocation and ranking problems akin to budget distribution.
- Conducted extensive experimental analysis on preference aggregation and rule convergence, producing insights on maximizing utility and satisfaction, applicable to auction mechanisms and real-time bidding environments.

LLM based chatbot | Full Stack Development, Amazon Bedrock *August 2024 - October 2024*

- Developed an intelligent chatbot application by integrating Llama model and implementing advanced response mechanisms, including RAG (Retrieval-Augmented Generation) to provide context-aware user interactions.
- Deployed the application on AWS EC2, utilizing AWS Bedrock API for seamless integration of Large Language Model, ensuring scalability and performance.

Autokube | Startup Project *August 2021 - March 2022*

- Led the development of the web application for automating Kubernetes cluster creation and modification.
- Utilized MongoDB, Express.js, React, Node.js (MERN) stack for formulating APIs to initiate scripts, triggering a series of workflows for managing the backend Kubernetes clusters.

PROFESSIONAL EXPERIENCE

Fyle Technologies Ltd, *Backend Developer Intern* **|** Bangalore, India *March 2022 - December 2022*

- Developed APIs using Django, Angular, and PostgreSQL (PSQL), contributing to 8 new features, improving market appeal.
- Streamlined PSQL migrations by adding fields and seamless frontend-backend integration, enhancing user experience.
- Added Unit and Integration tests with Pytest, achieving 98%+ test coverage across backend repositories.
- Introduced GitHub Actions for Continuous Integration, reducing review time by 50% and improving code quality.
- Automated pull request merging and optimized deployment pipelines, boosting scalability and performance by 5%.

PUBLICATIONS

- Vivek Kuchibhotla., P Harshitha., Shobhit Goyal (2020). An N-Step Look Ahead Algorithm Using Mixed (On and Off) Policy Reinforcement Learning. IEEE, https://doi.org/10.1109/ICISS49785.2020.9315959
- Vivek Kuchibhotla., P Harshitha., Divitha Elugoti (2020)., Combinatorial sleeping bandits with fairness constraints and long-term non-availability of arms. IEEE, https://doi.org/10.1109/ICECA49313.2020.9297371