Harshitha Puttaswamy

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EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Master of Science in Computer Science   *Expected December 2024*
Cumulative GPA: 3.57 /4.00
Relevant Coursework: High Performance Computing, Intro to Deep Learning, Design and Analysis of Computational Algorithms, Operating Systems, Computer Architecture, Science of Cyber Security, Hardware and System Security

TECHNICAL SKILLS

Programming Languages: C, CPP, Python, Java, JavaScript, HTML, CSS
Software and OS: Linux, Git, Jupyter Notebook, Google Collab
Frameworks and Tools: TensorFlow, Keras, Pytorch, Pandas, NumPy, TCP/IP, Cloud computing, AWS, MongoDB, ExpressJS, ReactJS, NodeJS (MERN Stack), Django, CI/CD, Pytest, SQL

CERFICATIONS

Reinforcement Learning - IIT Madras (NPTEL). Completed the course with an Elite Certificate
Deep Learning Part 1 - IIT Madras (NPTEL). Secured an Elite Certificate in the course.
Convolutional Neural Networks in TensorFlow - DeepLearning.AI
Neural Networks and Deep Learning - DeepLearning.AI
Machine Learning - DeepLearning.AI
Introduction to TensorFlow for AI, ML and DL - DeepLearning.AI
Information Security-5 - IIT Madras (NPTEL). Secured a silver medal.
Yes!+ workshop - Art of Living workshop for personality development for youth.

PROFESSIONAL EXPERIENCE

Fyle Technologies Ltd, *Backend Developer Intern* | Bangalore, India   *March 2022 - December 2022*
- Incorporated new APIs and functionalities using Django, Angular, and PostgreSQL in response to emerging requirements, enhancing the market appeal for 8+ new features.
- Spearheaded the migration process in PostgreSQL, efficiently adding new fields to tables, ensured seamless integration between frontend and backend systems, resulting in improved user experience.
- Worked on adding Unit tests and Integration tests using Pytest module for the Integration platforms.
- Achieved test coverage over 98% throughout multiple backend repositories managed on GitHub.
- Acquired and introduced GitHub Actions for Continuous Integration, enhancing code quality, and accelerating the review process hence saving 50% of time for the entire team.
- Facilitated automated merging of pull requests through adding testing pipelines and simplified code deployment to servers, thereby enhancing the platform's 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

PROJECT EXPERIENCE

Iterative voting with Multi-Arm Bandits | Reinforcement Learning Research   *August 2023 - Present*
- Creating a Reinforcement Learning (RL) environment, utilizing Multi-Arm Bandits setup, to train agents on diverse voting rules (e.g., Borda, Approval), optimizing the evaluation of these rules.
- Agents maximize final rewards through exploration-exploitation methods in iterative voting scenarios.

Design and Implementation of Instruction Pipeline of Processors | Computer Architecture   *January 2023 - May 2023*
- Implemented C functions to process a given instruction through the 5-stage pipeline of computer processors.
- Engineered support for Branch Table Buffer (BTB), Branch Prediction and Out-of-order processing of instructions, reducing the number of processing cycles needed by 50%.

Autokube | Startup Project   *August 2021 - March 2022*
- Led the development of the web application for automating Kubernetes cluster creation and modification.
- Utilized the MERN stack (MongoDB, Express.js, React, Node.js) for comprehensive application development and cutting cluster setup time by 50%.
- Developed APIs to initiate scripts, triggering a series of workflows for managing the backend Kubernetes clusters.