Atharva Vichare

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Education

University of Delaware — Newark, DE
Master of Science Computer Science — *Aug. 2023 – May 2025*

Terna College of Engineering — Navi Mumbai
Bachelor of Engineering Computer Engineering — *Aug. 2018 – May 2022*

Experience

Graduate Research Assistant (HCI LAB) — September 2024 – Present
University Of Delaware — *Newark, DE*

- Exploring the application of Large Language Models (LLMs), Knowledge Graphs (KGs), and Retrieval-Augmented Generation Systems (RAGs) to healthcare, with a focus on Alzheimer's disease.
- Developing a VR simulation for the USDA to model humane chicken depopulation methods and support animal welfare research.

Student Assistant For Joseph Brickley (Instructor) — March 2024 – Present
University Of Delaware — *Newark, DE*

- Co-Developed "Nessus Parser" , a Python package designed to automate the scanning and reporting of Common Vulnerabilities and Exposures (CVE)and Common Platform Enumerations (CPE) using data from the NIST DB.Implemented advanced data parsing algorithms, which increased the efficiency of vulnerability analysis.
- Implemented advanced data parsing algorithms, which increased the efficiency of vulnerability analysis by 40 percent , significantly reducing the time required to identify and address security threats.
- Developed an automated update mechanism that ensures the package continuously retrieves and uses the latest data from the NIST database,maintaining up-to-date vulnerability information without manual intervention

Associate Software Engineer — June 2022 – May 2023
GEP PVT. LTD — *Navi Mumbai, MH*

- Harnessed the .NET Framework, AngularJS, and Java to develop robust, scalable components for supply chain management software *GEP Nexxe, GEP Smart*, streamlining processes and boosting efficiency.
- Engineered dynamic user interfaces using HTML and CSS, enhancing user satisfaction and experience.
- Collaborated with cross-functional teams to translate client requirements into effective technical solutions, contributing to a 22 percent improvement in overall project delivery efficiency.
- Conducted thorough code reviews, debugging, and iterative testing, ensuring high-quality software and a 15 percent enhancement in Agile process cycles. This collaborative effort facilitated data-driven decision-making and process optimization.

Projects

ERP application For College — June 2020

- *Enhanced Operational Efficiency*: Streamlined college management by implementing functionalities for real-time student attendance monitoring and automated record maintenance, leading to efficient administrative processes.
- *Improved Communication*: Facilitated seamless information dissemination through integrated systems, ensuring timely updates and enhanced communication between students, faculty, and administration.

CPU Scheduling with Deep Reinforcement Learning — May 2024

- *Improved Scheduling Efficiency*: The CPU scheduling algorithm developed using Proximal Policy Optimization (PPO) enhanced overall scheduling efficiency by 35 percent, reducing average waiting time and turnaround time for processes compared to traditional scheduling algorithms.
- *Increased System Throughput*n: Implementing this deep reinforcement learning technique resulted in a 20 percent increase in system throughput, enabling the processing of a higher number of tasks within a given timeframe, thus optimizing system performance.

Technical Skills

Languages: Java, Python, CSharp/C++, SQL (Postgres), JavaScript, HTML/CSS
Frameworks: React, Node.js, Flask, WordPress, Material-UI, FastAPI
Developer Tools: Git, Docker, Jira, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: pandas, NumPy, Matplotlib,Tensorflow **Data Analysis**: Pyspark, Apache Hive, Hadoop