Keshav Shivkumar

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Education

Rutgers University New Brunswick, NJ
Master of Science** (MS) in **Computer Science** - **GPA: 3.92/4.00 *September. 2022 – May 2024*

Technical Skills

Programming Languages: Python, Java, C++, JavaScript, SQL
Web Development & Frameworks:: HTML, CSS, TypeScript, Django, React.js, Flask, JSP
Data Science & Machine Learning: Pandas, PyTorch, TensorFlow, NumPy, R
Developer Tools & Additional Skills: Git, Linux, MySQL, PostgreSQL, AWS, Agile, Scrum

Experience

Software Engineer Intern September 2021 – March 2022
Bloom Energy

- Developed a real-time monitoring system for manufactured fuel cell maintenance using **ReactJS** to engineer a dynamic **front-end dashboard** that displayed live data streams and **Flask** to serve as the back-end framework to **handle API integration** and monitor cell performance metrics for authorized users.
- Transitioned the monitoring web application on an **AWS EC2** instance to accommodate the growing influx of data.
- Engineered and launched a **MariaDB database** on **AWS RDS** to archive test data, **improving the application's efficiency by 52%**, to ensure a comprehensive tracking of fuel cell performance over time.
- Implemented data ingestion routines using pre-existing APIs to **retrieve real-time fuel cell metrics** such as electrical output, fuel utilization rate, system efficiency, emission levels into a status table UI.
- Integrated **Jenkins** and **GitLab** CI/CD pipelines to automate the deployment process and facilitate continuous delivery of application updates and new features onto EC2.

Projects

Pokedex Web Application | *React.js, Django, TypeScript, PostgreSQL, Python* June 2024 - Present

- Implementing a single-page web application using **ReactJS** of a Pokedex, an encyclopedia device from the popular franchise "Pokemon", to showcase an extensive catalog of Pokemon species, featuring **dynamic, client-side filtering capabilities** to allow users to efficiently search and sort through the **PostgreSQL** database based on various criteria. Leveraged **asynchronous programming** techniques to handle API requests from the **Django** backend, and designed a visually appealing and user-friendly interface by incorporating **Material-UI**.

RUEats Food Delivery Application | *HTML, CSS, JavaScript, Node.js, SQL* Oct 2023 - Dec 2023

- Designed and created a comprehensive food delivery application, architecting **RESTful Node.js APIs** along with integrating **Google Maps and Stripe third-party services** over a structured SQL database, hosted on an **AWS RDS** instance to ensure optimal performance and scalability, for restaurant registration and management and implementing functionalities for different user levels.

Shopfinity Vehicle Auctioning Website | *Java, MySQL, JSP, HTML, CSS* Mar 2023 - April 2023

- Developed Shopfinity, a Java-based vehicle auction platform, incorporating **JSP, HTML, and CSS** into the frontend and a robust database schema for **MySQL**, to enable a dynamic user experience with real-time bidding and automated auction functionalities, all deployed on an **Apache Tomcat** server.

ViLT: Vision and Language Transformer | *Python, PyTorch* Mar 2023 - April 2023

- Enhanced the Vision-and-Language Transformer (ViLT) model by fine-tuning its existing architecture involving precise hyperparameter adjustments and the strategic application of cutting-edge algorithms, achieving a **3% boost in accuracy** on the challenging GQA dataset, elevating the model's performance in **generating an answer given an image and question**.

Better, Smarter, Faster | *Python* Nov 2022 - Dec 2022

- Designed and implemented probabilistic decision-making models in **Python**, applying object-oriented design to simulate intelligent agent behaviors within a circular graph framework, using **Bayesian inference**, **Markov decision processes**, and **neural networks** to manage strategic interactions under uncertainty, progressively **improving the success rate to 100%.**