Shourya Shashank

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EDUCATION

Indian Institute of Technology, Kharagpur July 2016 – May 2021
B.Tech & M.Tech (Dual Degree) in Mining Engineering & Safety Engineering,
Coursework: Artificial Intelligence: Foundations and Applications, Programming and Data Structures, Quantitative Decision Making

TECHNICAL SKILLS

Languages and Libraries: C#, Python, C++, Java, SQL, JavaScript, Rust, TensorFlow, PyTorch, Predacons
Technologies: Azure, Docker, Google vertex, Azure AI Studio, Function App, Kafka, DataBricks, Transformers

EXPERIENCE

Honeywell
Bengaluru, Karnataka

Advanced Software Development Engineer *July 2021 – Present*
Production Intelligence

- Spearheaded development of a large-scale, cloud-native industrial software, ensuring robust, scalable and efficient architecture.
- Achieved 99.9% application availability by utilizing durable functions and redundant worker nodes, ensuring minimal downtime.
- Designed and developed a Python expression evaluator, enabling users to write and execute custom calculation formulas seamlessly.
- Increased data backfill speed by 15x through parallelization and bulk data insertion techniques, significantly improving performance.
- Managed Azure infra, including function apps, Kubernetes, file shares, and service bus, ensuring seamless integration and operation.
- Improved reliability and speed of inter-microservice calls by optimizing communication protocols and reducing latency.
- Effectively utilized Druid for time-series data management, ensuring efficient data storage and retrieval for analysis and prediction.
- Designed a system to run scheduled calculations on KPIs, providing timely insights and performance metrics for end-users.
- Delivered tailored solutions for key industries such as mining, and manufacturing, addressing their unique data management needs.
- Leveraged reason analysis and other advanced techniques to generate accurate predictions, aiding in quick decision-making.

Honeywell Forge AI

- Accomplished the design and development of a RAG-based Agentic AI tool that effectively communicates across internal GET APIs, databases (sql, time-series), and logbooks, facilitating seamless data exchange and operational efficiency.
- Implemented an AI tool that answers queries through a user-friendly chat interface, improving the speed of information retrieval.
- Enhanced operational efficiency and user interaction by enabling smooth operations on KPIs and assets through agentic AI.
- Established Forge AI infrastructure by integrating Azure AI across Honeywell's ecosystem, enhancing the company's AI capabilities.
- Developed a GPT-4o based migration tool for legacy application calculations, eliminating manual migration efforts and Human errors.
- Migrated user code and configurations from VBScript to Python, transitioning configurations to the latest cloud infrastructure.
- Achieved savings of over 3000 days of manual work through automated migration with AI integration, accelerating project timelines.

Software Engineer Intern *June 2020 - August 2020*

- Successfully migrated Process Safety Analyzer code base from DotNet framework to DotNet core, achieving platform independence.
- Developed multiple Class Libraries, enhancing secure handling and analysis of SQL database from sensors Data and log files.
- Contributed to a pilot project, which led to Honeywell's decision to migrate entire Connected Industrial systems to the cloud.
- Ensured optimized performance and scalability, as measured by reduced processing time and improved reliability due to redundancy.

Quest Global
Thiruvananthapuram, Keral

Deep Learning Internship *May 2019 – July 2019*

- Developed monocular depth estimation to avoid collisions, utilizing an Encoder-Decoder trained on the KITTI dataset.
- Generated depth maps by integrating image and LIDAR data through a DenseNet201 based Encoder-Decoder model.
- Achieved object detection using SSD MobileNet V2, with deployment on NVIDIA TX1, ensuring 30ms response time and 15 FPS.
- Completed a 2-month intensive internship focused on enhancing depth estimation and object detection technologies.

Blueseed Ventures
December 2018

- Developed a backend and database management system using Node.js and MongoDB for web, Android, and iOS applications.
- Designed a user-friendly UX for a registration system, which enables the accurate estimation of power usage for landed properties.
- Successfully developed and implemented a community feed system using Google Firebase, designed for testing and enhancements.

PROJECTS

PREDACONS | Founder and Maintainer *October 2023 - Present*

- Established Predacons, a versatile Python library for simplified training and fine-tuning of large language models (LLMs).
- Developed user-friendly functions for seamless data handling and model training, enhancing usability and flexibility.
- Automated optimization to dynamically adjust fine-tuning, accommodating VRAM limits while allowing user-defined configurations.
- Created Predacons Server, an OpenAI-compatible web server, enabling effortless hosting of any LLM model.
- Introduced Predacons Agents, that enhance LLMs with data analysis, RAG, web scraping, decision-making, and code interpretation.
- Boosted output generation speed by up to 6x, significantly improving performance over standard methods.
- Integrated comprehensive features from data preprocessing to real-time chat generation, streamlining the NLP workflow.
- Lowered barriers to entry for complex NLP tasks, empowering developers, researchers, and enthusiasts to innovate and excel.