Rishi Patil

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Education

University of Wisconsin-Madison Madison, WI

Bachelor of Science in Computer Science; Bachelor of Science in Data Science - GPA: 3.92 *December 2024*

Relevant Coursework: Data Structures, Algorithms, Machine Organization, Artificial Intelligence, Big Data Systems, Data Science Modeling, Discrete Mathematics, Operating Systems, Linear Algebra

Experience

Expedia Group May 2024 – July 2024

Software Engineering Intern *Seattle, WA*

- Improved monitoring and data visualization for over **1,000** services by developing and deploying a fault-tolerant Python script on **AWS Lambda** that dynamically generates Datadog tags from JSON logs
- Upgraded system reliability and failure recovery processes by reducing system failure resolution time by an average of **4** hours, decreasing runtime by **50%**, and lowering error rate by **90%** automating data-visualization and time-stamping services in Datadog
- Enabled seamless and reliable deployment for **23,000 daily invocations** by implementing a CI/CD pipeline with unit testing, Docker containerization, Spinnaker, and GitHub Action triggers

Ace Hardware May 2023 – August 2023

Software Engineering Intern *Oak Brook, IL*

- Facilitated a TFS to Git migration, **adopted by over 200 engineers**, by developing a full stack .NET application within an agile development environment
- Increased operational efficiency by saving over **200 hours** of manual data entry through automation of data transfer processes between file systems
- Managed ambiguity in data inputs and streamlined internal relational database systems with **100k+ entries** by leveraging Microsoft's SQL Server

UW-Madison Department of MS&E January 2023 – May 2023

Research Intern *Madison, WI*

- Co-created resilient machine learning diffusion models for prompt-based image generation by engaging closely with Shenzhen Jiangyun Intelligence, Ltd.
- Increased the efficacy of stable diffusion models by **34%** by fine-tuning hyper parameters and leveraging tools such as Dreambooth, WebUI, and LORA to achieve optimal performance

Projects

First Direction | *Swift, ARKit, Cloudflare, Docker, Python, Flask, Git* January 2024 – May 2024

- Enhanced accessibility and **reduced user travel time by 20%** by engineering an AR indoor navigation app with a SwiftUI front-end to optimize routing in large buildings in collaboration with Last Lock Inc.
- Boosted navigation efficiency and attained **95% accuracy** in performance testing by utilizing ARKit to create a USDz room scan, optimized with A* search in a back-end REST API for quickest path-finding
- Delivered **less than 2-degree deviation** in path overlay precision by integrating the iPhone gyroscope and camera to overlay paths on the floor using real-time data tracking

CaneSense | *Python, PyTorch, Arduino, Edge Impulse, Git* September 2023 - December 2023

- Designed a walking cane attachment for the visually impaired, enabling real-time surface wetness detection with an **average of 1.5 milliseconds per prediction** by integrating computer vision capabilities into a single-board computer with low processing power
- Refined surface wetness detection performance, achieving an **overall accuracy of 92%**, by rigorously testing the model's effectiveness with accuracy scores, saliency maps, and image probability scoring

Technical Skills

Languages: Java, C, C#, C++, Python, JavaScript, HTML, CSS, R, SQL, Swift, TypeScript
Frameworks: Svelte, React Native, Tailwind, .NET Framework, Flask, SwiftUI, Spark
Developer Tools: Git, Google Cloud Platform (GCP), AWS, Azure, Linux, GNU Make, Docker, Spinnaker, Datadog, Cassandra, Firebase, Kafka, BigQuery, HDFS, Supabase
Libraries: React.js, JavaFX, JUnit, Matplotlib, Selenium, Pytorch, OpenCV, jQuery, FXGL, ARKit