Kavel Rao

Email: kavelrao@cs.washington.edu   Phone: 425-365-7637   GitHub: github.com/kavelrao

Education

University of Washington Allen School, M.S. Computer Science   **Jun 2025**
- Combined Bachelors/Masters program

ETH Zurich, Computer Science Foreign Exchange   **Sep 2023 – Jan 2024**
- One of five students selected for departmental exchange program at ETH in Zurich, Switzerland

University of Washington Allen School, B.S. Computer Science   **Jun 2023**
- GPA: 3.97/4.0
- Washington NASA Space Grant Scholar: 4 year scholarship

Relevant Courses: Machine Learning, Database Systems, Deep Learning, Distributed Systems, Systems Programming

Experience

Software Engineer Intern – Stripe   **Jun 2023 – Sep 2023**
- Identified key merchant risk metadata through historical data queries and user interviews; surfaced in risk analyst tools to improve efficiency in fraud and credit reviews (millions/month) and reduce time-to-clue for fraud incidents
- Implemented flexible labeling and filtering system in merchant review interface, increasing functionality for future improvements to review tools and machine learning data pipelines

Technologies Used: Ruby, TypeScript, ReactJS, MongoDB, Splunk, Trino SQL

Undergraduate Researcher – xlab @ UW CS (Advisor: Yejin Choi)   **Feb 2022 – Present**
- Developed self-iterative knowledge distillation method to produce compute-efficient language models outperforming larger scale general-purpose models on quality and diversity metrics by 62%
- Empowering future research towards socially responsible AI by releasing dataset for novel moral reasoning NLP task, consisting of over 1 million moral situations and explanations
- First-author paper accepted to EMNLP Findings 2023: https://arxiv.org/abs/2310.15431

Technologies Used: PyTorch, Pandas, HuggingFace

Teaching Assistant – Programming Languages, Wireless Comm @ UW CS   **Mar 2022 – Jun 2023**
- Designed lessons and taught 20+ students functional programming and advanced OOP in OCaml, Racket, Java
- Recruited by professor to TA as undergraduate based on performance in course and final project
- Worked with students through class time and office hours to ideate, scope, and implement innovative final projects such as multi-channel walkie talkie, radio astronomy

Software Engineer, Part-time – Conversica   **Jun 2021 – Sep 2022**
- Reduced company spending by $100,000/year building Kubernetes resource auditor with deployment pruning, cutting cluster size by 30%. Original scope was one-time cleanup, but now adopted into MLOps process
- Delivered infrastructure for AI-powered chat based on BRD, scalable to 100 concurrent sessions. Implementation included DynamoDB for context and config storage, REST-based Django API for flow and business logic, Locust load testing, and model inference autoscaling with Sagemaker endpoints
- Integrated and deployed 3rd-party semantic search service by building REST API wrapper for gRPC protocols. Will be used on front page of customer chat services

Technologies Used: Python, Django, AWS, Docker, Kubernetes, GitLab CI, Terraform, Jira

Student Software Engineer – Husky Satellite Lab   **Oct 2020 – Dec 2021**
- Programmed embedded satellite systems to enable low earth orbit subsurface scanning radar experiments
- Designed satellite orientation control algorithm to provide directional radar adjustment using microcontroller drivers to interface with positional sensors and motors. Satellite scheduled for launch in late 2024

Technologies Used: C/C++, MSP 430 microcontroller

Technical Qualifications

Languages (Proficient): Python, Java, C, SQL
Languages (Familiar): C++, Ruby, OCaml, Racket, Bash, JavaScript, TypeScript, HTML, CSS
Tools: PyTorch, Pandas, HuggingFace, Docker, Kubernetes, Django, Git, Terraform, Linux/UNIX, LaTeX