JOSH ROY

M.S. Computer Science Engineering | University of Michigan, Ann Arbor, *Class of 2025*
B.A. Computer Science | University of California, Berkeley, *Class of 2023*
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TECHNICAL SKILLS

Languages
Python, Java, JavaScript, TypeScript, GoLang, HTML, SQL, Bash, CSS, C, RISC-V

Platforms/Frameworks/APIs
PyTorch, Docker, Kubernetes, AWS, Svelte, React, Selenium, Puppeteer, TensorFlow, Jupyter

WORK EXPERIENCE

Full-Stack Software Developer, Anoki Inc. (Startup) *San Carlos, CA | Jun 2023 - Feb 2024*

- Designed and built customer-facing Content Management System (CMS) content scheduling endpoint using database/sql (GoLang) and Svelte (TypeScript) for Anoki content streaming platform
- Implemented full-stack feedback feature in machine learning powered clip search component of overall system
- Managed and deployed containerized elements of content streaming system using Docker
- Monitored and debugged system networking components running on HAProxy

Undergraduate Research Assistant, BAIR Labs *Berkeley, CA | Aug 2022 - May 2023*

- Continuation of NeurIPS 2022 paper submission research, contributed to NeurIPS 2023 paper submission
- Project uses visual prompting via image inpainting and generative adversarial models to learn new visual tasks at test time
- Analyzed source files to augment figure database by extracting captions related to each figure
- Captured ~98% of relevant captions and added support for new figure type
- Delivered dataloader with over 87,000 augmented samples, larger than original dataset

Software Development Engineer, Amazon Inc. *Seattle,* WA | *May 2022 - Aug 2022*

- Designed and built user experience and network of AWS services for a distributed food ordering system integrated with DoorDash to reduce reimbursement overhead for Amazon expensed group orders
- Used AWS Cognito for authentication and SecretsManager, S3 and SES for account identification with DoorDash
- Built the business and transaction system using AWS Lambda, SQS, API Gateway, Puppeteer and Docker
- Developed multi-user communication capabilities using AWS SNS
- Hosted the service on AWS Amplify

Undergraduate Research Assistant, RISELab *Berkeley, CA | Jan 2022 - Jun 2022*

- Project uses dashcam lane footage to train a model to output an accurate bird's eye view of the lane ahead to improve driving accuracy for autonomous vehicles
- Creating data pipelines to transform lane footage, using semantic segmentation to identify specific lanes in the footage
- Deploying point-clouds to shift the viewing angle to a top-down perspective and use the segmented view to train the model
- Researching academic papers to come up with criteria and methods for building optimal models for lane predictions

Workload Engineer, NetApp *Raleigh, NC | May 2021 - Aug 2021*

- Developed Kubernetes cluster to deploy framework of tools for optimized storage, analysis and presentation of data
- Deployed and tested multiple applications including Grafana, InfluxDB, and Telegraf to withstand service interruptions
- Connected TCP endpoints of deployed services within JSON manifest and configuration files
- Allowed my team to efficiently analyze and present NetApp flagship product ONTAP performance metrics to stakeholders

PROJECTS

Distance Lengthening Algorithm (Python)

- Developed a complex algorithm in Python that maximizes the shortest distance between arbitrary start and end nodes
- The algorithm efficiently determines which nodes and edges to remove to lengthen the shortest path in the input graph, using the given removal constraints in the problem
- Built a graph generator program to produce randomized graphs based on custom size parameters for nodes and edges, in order to test our algorithm

LEADERSHIP

Most Creative Solution Award, NetApp Early in Career Program *Raleigh, NC | Jul 2021*

- Awarded for innovative business solution for the problem of hybrid work culture using Augmented Reality integration

Computer Science Honor Society, UC Berkeley *Berkeley, CA | Jan 2021 - May 2023*

- Conduct tutoring and mentoring sessions for undergraduate students taking computer science courses
- Host workshops led by industry professionals to guide the academic and professional careers of UC Berkeley undergraduate students