

NATHAN SCHNEIDER

Bellevue, WA 98004 | 720-891-6551 | schnei.nathan@gmail.com

nschneider.dev | [LinkedIn](#) | [Github](#)

EDUCATION

Dartmouth College, Hanover, NH

June 2022

Bachelor of Arts, Major in Computer Science, Minor in Engineering Sciences

GPA 3.80

Relevant Coursework: ML, AI, RL, Robotics, Algorithms, Discrete Mathematics

Major GPA 3.88

Honors/Awards: Citation for Meritorious Performance in Introductory CS, OOP, Machine Learning

SKILLS

Programming Languages: Python, Java, JavaScript/Typescript, Bash, Go, C

AWS / Cloud Computing: AWS CDK, Bedrock, Lambda, Cloudformation, API-Gateway, S3, DynamoDB, Cloudwatch

Machine Learning/Computer Vision: Tensorflow, scikit-learn, OpenAI Gym, Jupyter Notebook, PiCamera, OpenCV

Data Science: R, RStudio, Tidiverse, NumPy, Pandas, Pyplot, SQL

Productivity: Git, Slack, Github, Zoom, Microsoft Office, Google Drive, Zenhub

Other: Strong communication skills, Diverse mathematics background, Interdisciplinary team experience

WORK EXPERIENCE

Amazon Web Services, Seattle, WA

April 2025 - Present

Software Development Engineer, II AWS Bedrock Guardrails

- Launched LLM backed guardrail tiers, now processing over 150M tokens/minute for over 60 languages
- Optimized prompt based systems for latency, cost, and availability with prompt caching, cross-region inference
- Configured Guardrail Image Filter model for inference, improving throughput 50% with multi-tenant GPU hosts
- Developed an internal-only system for in-domain confidence of Guardrails content moderation

Amazon Web Services, Seattle, WA

September 2023 - April 2025

Software Development Engineer, AWS Bedrock Guardrails

- Launched customer-configurable PII detection guardrails for AWS Bedrock, now processing 250M tokens/minute
- Increased language model performance 84% with Flash Attention and classification heads, increasing throughput
- With these optimizations, reduced hosting costs by 64% across our 4000 GPU fleet, reducing customer costs
- Leveraged AWS CDK Infrastructure-as-Code to deploy across 25 AWS regions with 99.99% availability
- Served as engineering liaison for a team of PHD Machine Learning scientists to optimize SLMs for inference

Amazon Web Services, Seattle, WA

August 2022 - September 2023

Software Development Engineer, AWS IoT Greengrass

- Using AWS CDK IaC, implemented native AWS canary services to monitor the health of our product
- Officially recognized by team for outstanding work in over 45% of sprint retrospectives
- Developed open-source software components with high availability for intelligent edge systems

Amazon Web Services, Seattle, WA

May 2021 - September 2021

Software Development Engineer Intern, AWS IoT Device Ecosystem

- Designed and implemented a cloud based hardware mutex for collaboration and automation in software testing
- Through investigation and research, diagnosed and defined team productivity losses

DALI Lab, Hanover, NH

November 2019 - January 2021

Full-Stack Software Engineer

- Engaged in 18+ hour work weeks on DALI Lab projects while maintaining full course load
- Collaborated with an interdisciplinary Agile team to design, develop, and deploy multiple projects

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PROJECT EXPERIENCE

MANI: Gesture Controlled Virtual Assistant

November 2022 - June 2022

- Led a team of peers develop a gesture-based virtual assistant, utilizing computer vision and machine learning
- Integrated Mediapipe Hands for feature analysis to scikit-learn time-series models for gesture classification
- Optimized pose tracking computer vision models using Google Coral tensor processing units (TPUs)
- Deployed software and motorized robotic peripherals on Raspberry Pi computers

Transfer Reinforcement Learning with a Robotic Manipulator

October - November 2021

- Created a custom OpenAI Gym environment for a reinforcement learning task: Sliding puck manipulation
- Trained and evaluated Proximal Policy Optimization (PPO) models in a custom simulation for the task
- Implemented the model in the real world, using an ABB IRB 120 Robotic Manipulator Arm and PiCamera

Computer Vision Raspberry Pi Projects

December 2020 – July 2021

- With Python, OpenCV, Tensorflow implemented several Computer Vision Projects on Raspberry Pi's
- Utilized GPIO, TPU, and PiCamera peripherals to process the environment and control robotic components
 - Squirrel Cam - Surveilled bird feeders to identify and spray unwanted squirrels with water
 - Robot Follower - Small wheeled robot designed to follow the wearer of an Aruco fiducial marker
 - Facial Recognition Doorbell - Identified visitors by their faces to play a unique audio greeting