Josiah Putman

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EDUCATION

Dartmouth College   Class of 2020
Bachelor of Arts in Computer Science and Japanese Language, Magna Cum Laude, Phi Beta Kappa   *Hanover, NH*
- Coursework focus in Robotics, Artificial intelligence, Deep learning, NLP   GPA 3.98 / 4.00

EXPERIENCE

Google   September 2020 – Current
Senior Software Engineer   *Seattle, Washington*
- Lead developer of an LLM-based Local Services Ads (LSA) query targeting system, accounting for over \$1.3B ARR. Utilized supervised fine-tuning and transfer learning to create a high performance servable model.
- Fine-tuned SoTA Gemini models with RL to build a highly customizable query classification system, generating an additional \$150M in ARR for LSA.
- Built TPU-accelerated vector retrieval pipelines for classifying $O(10B)$ queries in under 1 hour.

Urban Systems Lab - ClimateIQ   May 2024 – May 2025
Machine Learning Fellow   *Seattle, Washington*
- Designed and trained custom ConvLSTM architectures in JAX and TensorFlow for flood forecasting and atmospheric predictions in urban centers with less than 5% of the compute cost of standard physics-based simulations (event.newschool.edu/climateiq).
- Implemented teacher-forcing model optimization on flood model enabling GPU-accelerated training.

UpTime Solutions   May 2019 – August 2020
Machine Learning Engineer   *Hanover, New Hampshire*
- Engineered ML models and data processing frameworks for bearing-fault detection using Python, C#, JavaScript. Lead development of Python API used for data aggregation, serving, and low-latency analysis pipelines.

Microsoft   May 2019 – August 2019
Software Engineer Intern   *Seattle, Washington*
- Designed and implemented highly scalable WebSocket Server for MS Graph WebHook notifications in C#.

PROJECTS AND PUBLICATIONS

PLRC* For Motion Planning | *Published in IROS 2020*   researchgate.net
- Lead developer (Julia, C++) and researcher for piecewise-linear regression complexes for approximately optimal motion planning.

Kataru | *YAML Based Dialogue Engine*   kataru-lang.github.io
- Developed high-performance dialogue engine for simplifying writing dialogue for story-driven games in Rust, supporting JS/WASM targets and Unity. Built comprehensive developer tooling through a VS Code extension.

WASM Galaxy Simulation | *Physics Simulation on the Web*   galaxy-sim.github.io
- Developed WASM-deployed Rust implementation of Barnes-Hut algorithm for scalable galaxy simulation (barnes-hut-rs).

TECHNICAL SKILLS

Languages: Rust, C/C++, C#, Python, Java, Go, Kotlin, SQL, GLSL, CSS
Technologies: CUDA, JAX, Keras, Tensorflow, PyTorch, ROS
Concepts: Machine Learning, Generative AI, Compilers, Data Analytics, Neural Networks, HPC, Game Development, Shaders, GPU