

Ethan Bennett

Machine Learning Systems Engineer

Flowery Branch, GA · Open to Remote · ethanbennett.dev

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ML systems engineer building custom GPU kernels, zeroth-order optimization libraries, and distributed training systems.

SKILLS

ML Frameworks: JAX, Flax (NNX), Optax, PyTorch, TensorFlow, tinygrad

GPU & Systems: Pallas/Triton kernels, int8/4-bit quantization, GPU benchmarking, distributed training

Languages: Python, Go, TypeScript, Rust, C#, SQL

Infrastructure: AWS, Docker, PostgreSQL, Redis, Linux, Cloudflare Workers, Concourse CI

PUBLICATIONS

Mohebbi, M., Manzourolajdad, A., **Bennett, E.**, & Williams, P. “A Multi-Input Neural Network Model for Accurate MicroRNA Target Site Detection.” *Non-Coding RNA* 11(2):23, March 2025 (peer-reviewed). doi.org/10.3390/ncrna11020023

EXPERIENCE

ClassLink – Software Developer IC1

Feb 2025 – Present

Clifton, NJ · Remote

- Shipped ClassLink **OneData**, a platform automating secure transfer of unified K-12 assessment and roster data; built its data-ingestion pipelines and backend APIs (Angular, Python, PostgreSQL, AWS).
- Drove AI-assisted modernization of the OneData codebase with LLM coding agents.
- Built 13 source integrations across K-12 assessment and roster data (ACT, SAT, i-Ready, NWEA MAP Growth, Renaissance Star, OneRoster); diagnosed and fixed performance bottlenecks in the ingestion pipelines.

University of North Georgia – Machine Learning Research Assistant, Bioinformatics

Aug 2024 – Dec 2025

Dahlonega, GA · Part-time from Feb 2025

- Co-developed **MINN**, a multi-input CNN for microRNA target site detection; built its dynamic-programming structure prediction pipeline and the training and benchmarking harness for a seven-baseline evaluation (Python, TensorFlow/Keras).
- Co-authored the peer-reviewed *Non-Coding RNA* paper (2025): AUPRC 0.937, precision 0.873, recall 0.870 on an experimentally validated set, outperforming seven established baselines.
- Continued part-time after graduation, helping establish UNG’s AI lab at the Dahlonega campus.

Imagine Learning – Associate Software Engineer

May 2023 – Aug 2024

Tempe, AZ · Remote

- Promoted from 2023 Summer Software Engineer to associate engineer; internship work analyzed student performance data, surfacing learner-outcome and engagement trends (Python, Pandas).
- Shipped features for the Imagine Learning Classroom product (Python, Vue) and internal platform services including the employee API and data/reporting services (C#, .NET, Concourse CI).

PROJECTS

zerograd – JAX/Optax library for zeroth-order optimization: ES pseudo-gradients from low-rank factor perturbations without dense materialization; seed-derived fault-tolerant cluster, params never transferred. Controlled studies: 4-bit activations raised ES accuracy +15.7pp with no straight-through estimator while hurting AdamW (ViT/CIFAR-10); population-vs-batch gradient-quality tradeoffs under fixed compute; integer-ES updates need batch ≥ 256 , as per-example quantization rounding decorrelates descent directions. Fused int8 linear+LUT Pallas kernel, bit-identical forward, up to $1.7\times$ XLA at $K\leq 256$ on H100 (Python, JAX, Optax, Pallas)

tinygrad-gmlp – gMLP sequence model (Liu et al. 2021) in tinygrad; released as pip package gmlp_tinygrad

EDUCATION

University of North Georgia – B.S. Computer Science · GPA: 4.0

Aug 2022 – Dec 2024

- Honors: Siler Scholar, President’s Honor Roll (2022–2024), 2nd Place Team, 2024 UNG Mathematics Tournament.

University of North Georgia / Toccoa Falls College – A.S. Computer Science (dual)

Aug 2020 – May 2022