

# Ben Gubler

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## EDUCATION

### B.S. in ACME (Applied & Computational Mathematics Emphasis), B.A. in Arabic

Brigham Young University

May 2027

Provo, UT

- Cumulative GPA: 3.86
- Full-tuition Heritage Scholarship from BYU
- Relevant Coursework: Software Engineering; Math 213, 215 (Linear Algebra); Math 290 (Proofs); Advanced Artificial Intelligence (CS 474)

## TECHNICAL SKILLS

**Web Development:** Node.js, JavaScript, TypeScript, React, Next.js, Vite, Tailwind, HTML/CSS, ESLint, Biome

**Machine Learning:** PyTorch, PyTorch Distributed, HuggingFace Transformers, HuggingFace Accelerate, FSDP

**Other:** Ubuntu, Git, Bash, Docker, enroot, SLURM, Python, C++, Rust, Java, SQL, GitHub Actions, Turbopack, Webpack

## WORK EXPERIENCE

### Software Engineering Intern

Vercel

Jun - Aug 2025

Remote

- Implemented statically typed links for Turbopack and developed automatic type generation system for PageProps, LayoutProps, and RouteContext
- Built route export validation system for Turbopack using TypeScript's satisfies operator, catching invalid exports at compile time
- Deprecated next lint command, created automated codemod for migration to ESLint CLI, and integrated Biome as fast alternative linter option

### Artificial Intelligence Research Assistant

Perception, Control, and Cognition Lab (BYU)

Mar 2023 - Present

Provo, UT

- Built a scalable pipeline for pretraining small LLMs on a supercomputing cluster, leveraging PyTorch Distributed, Enroot, SLURM, Wandb, OmegaConf, and Eleuther's lm-evaluation-harness
- Wrote a training loop to fine-tune Meta's LLaMA 70B using only 8 GPUs by utilizing FSDP
- Learned to use our cluster of 80 A100 GPUs across 8 nodes using SLURM and enroot, taught coworkers, and wrote documentation
- Designed and executed experiments using LLMs to simulate human respondents and evaluate their perspectives

## PERSONAL PROJECTS

### Eta ([eta.js.org](https://eta.js.org)) | TypeScript

Mar 2020 - Present

- Automated testing and code coverage reports using CI on GitHub Actions
- 1.5K+ GitHub Stars and 1M weekly downloads; powers Facebook's Docusaurus doc generator

### tokka-bench ([github.com/bgub/tokka-bench](https://github.com/bgub/tokka-bench)) | Python, Tokenizers, Streamlit

Present

- Comprehensive benchmark suite for comparing tokenizer performance across multiple languages with interactive visualizations

### tokka ([github.com/bgub/tokka](https://github.com/bgub/tokka)) | Python, Tokenizers, MosaicML Streaming

Present

- Toolkit for training custom BPE tokenizers on arbitrary data splits with support for efficient cloud-based training workflows

### Shade ([github.com/bgub/shade](https://github.com/bgub/shade)) | TypeScript, WebGPU, WGSL

Present

- PyTorch-like computation library for TypeScript/JavaScript using WebGPU for high-performance GPU computing in the browser

### Personal Website ([bengubler.com](https://bengubler.com)) | Next.js 15, Tailwind, MDX

Mar 2017 - Present

- Personal website and blog covering AI, distributed training, and language learning

## SERVICE

### Volunteer Service Representative

The Church of Jesus Christ of Latter-day Saints

Oct 2020 - Nov 2022

Texas; Czechia; Slovakia

- Organized and taught free English classes, helped local city government process travel documents of Ukrainian refugees

## ADDITIONAL

**Languages:** Fluent in English, Czech; conversational in Slovak; basic proficiency in Russian, Arabic

**Awards:** AP Scholar Award (2019); Philo T. Farnsworth Governor's Award for innovation (2020)

**Hobbies:** Classic literature, rock climbing, open-source, poetry, backpacking, pickleball, language learning

**Courses:** 'Neural Networks: Zero to Hero' by Andrej Karpathy

**High School:** ACT — 36, GPA — 3.95