

Ryan Baker

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Education

B.S.E. in Computer Engineering, Purdue University Aug 2023 – May 2026

- Concentration in *Computer Systems*
- Cumulative GPA: 3.5/4.0

M.S.E. in Computer Engineering, Purdue University Aug 2026 – May 2027

Experience

Course Instructor, Modern C++ Jan 2025 – Present
Purdue University College of Engineering West Lafayette, IN

| Design and teach software engineering courses at Purdue on behalf of Purdue IEEE, delivering interactive lectures and certifying successful students.

- Develop and deliver supplemental software courses for undergraduate students.
- Manage student evaluations and issue College of Engineering certificates.

Embedded Software Developer Intern May 2025 – Aug 2025
Matrix Design Group Newburgh, IN

| Developed systems to improve embedded software workflows and streamline developer productivity.

- Designed and implemented a space-efficient logging system for embedded platforms.
- Improved CI pipelines by integrating automated linting and testing.
- Collaborated with senior engineers to refine architecture and ensure reliability.

Conference Speaker Nov 2024
Core C++ Group Tel Aviv, Israel

| Delivered a 60-minute lecture on floating-point usage in safety-critical and performance-critical systems.

- Presented “*Messing with Floating Point*”, a talk on safe and effective floating-point practices.
- Invited to Tel Aviv to share research on reliability and safety in numerical computing.

Teaching Assistant, Linux and Bash Aug 2024 – Dec 2024
Purdue University College of Engineering West Lafayette, IN

| Assisted students in completing programming assignments on Linux and bash scripting.

- Hosted a 90-minute weekly office hours session to provide support and guidance to students.

Projects

YouTube Channel, Ryan Baker Feb 2024 – Present

Reach 200K+ people with high-quality technical content.

Juicer, C++ Chess Engine June 2024 – Sept 2024

Developed a chess move generator that runs ~2.6x faster than Stockfish.

Thesaurusle, Web Application • **BigNums**, C++ Numerics Library • **PassMan**, Password Manager
GitVista, Real-time Git Visualizer • **Conviz**, Convolution Visualizer • **eCFR Analyzer**, Visual eCFR API

Skills

Languages C++, C, Go, Python, Lua, Bash, JS/TS

Data Pandas, NumPy, Excel

Technologies Git, GitHub, SQL, Flask, Neovim, VSCode

Soft Skills Reliability, Persistence, Innovation