Gio Kim

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Education

Eastlake High School — Sammamish, WA
High school diploma, Class of 2029 GPA: 3.96/4.0 — *Sep 2025 – Jun 2029*

- **Coursework:** AP Calculus AB, AP Chemistry, AP World History, Spanish 3; UW Precalculus (Math 120)
- **Competitions:** USA Computing Olympiad Gold (2nd-highest level); ACSL All-Star Finals, TSA and HOSA state qualifier

Honors

Y Combinator Summer Internship Expo, San Francisco (Aug 2026): selected on the strength of a recorded AI coding session
John Locke Institute Essay Prize, Philosophy: shortlisted, then **Commended**; **100,227** entrants from **183** countries

Experience

Student Research Assistant, Systems Biology — Jun 2026 – Present
Prof. Herbert Sauro, UW Bioengineering — *Seattle, WA*

- First author on **5** manuscripts in preparation on open-source software for simulating living cells
- Derived exact formulas identifying which reaction controls output in **4-** and **10-step** chemical pathways
- Ran **10,000** simulations of pathways with random mutations, using Latin hypercube sampling to vary speeds evenly

Student Researcher, Computational Microbiology — Sep 2026 – Present
Mentored by Dr. Patrik Jones, Imperial College London — *Remote*

- Built a new model of how an infectious bacterium senses crowding, adding equations for gene switching and shared signals
- Fit it to published lab data and tested **40** crowd sizes; early results suggest the controlling step changes

Founder and Web Developer — Dec 2025 – Present
Cells and Civics (my science site) + freelance — *Remote*

- Designed, developed and launched websites for **4+ nonprofit organizations** single-handedly

Lifeguard, Columbia Athletic Clubs, Sammamish, WA | *Red Cross certified; early-morning shifts* — Oct 2026 – Present

Projects

Tellurium Nitro | *Rust, Python* — Nov 2026

- Re-engineered the computational core of Tellurium, an open-source platform scientists use to simulate cells
- Designed as a drop-in replacement: a one-line switch for users, passing all **5,270** tests, including the official suite
- Computes a standard analysis directly instead of re-simulating thousands of times: **251 s** to **1.87 ms** (**134,000x**)
- Accelerated simulation **7.5x**, resolved **14** tests the original fails, and opened the engine to C, C++, MATLAB, Julia

SB Modeling Agent | *JavaScript, Node.js, Python, Claude* — Sep 2026 – Present

- Developed a web platform where researchers build, simulate and analyze cell models alongside an AI assistant
- Converted Prof. Sauro's textbook into a **96**-page linked knowledge base the AI consults only when a question requires it
- Fine-tuned a compact AI model to route requests to the right pages: **97%** accurate on **173** new cases vs. **79%** for keywords

Atlas | *Python, FastAPI* — Dec 2025 – Jul 2026

- Built **3** versions of a private AI assistant used by voice, chat or WhatsApp; speech is processed on the device
- Gave it a searchable memory of the user's own notes, plus tools for the web, research papers, email and Google Drive
- Engineered automatic failover to a backup AI provider, so a service outage does not interrupt a conversation
- Added safeguards: the AI can draft new tools, but only the user can switch them on, and every action is logged

Murmur | *TypeScript, Node.js* — Oct 2026

- Built real-time collaborative coding, a "Google Docs for code": every save reaches all teammates within **1 second**
- Each teammate's own AI assistant (Claude, Codex, Gemini, 2 more) coordinates with the others to avoid clashing edits

Leadership

Founder, ABR.AWARE (HOSA health campaign): led **4** teams, reached **4,466** people, built a **60**-organization outreach list
Media Team Lead, church: manage a **7**-person team, including scheduling and training new members
Model UN: Assistant Director, EduMUN conference; Best Delegate, KCMUN | **Director of Outreach**, KORE Project
Clarinet Section Leader, Hyungjae Youth Symphony | **Member**, Redmond Youth Partnership Advisory Committee

Technical Skills

Languages: Python, JavaScript/TypeScript, Rust, Java, Swift, R
Tools: Git, FastAPI, Node.js, PyTorch, pytest, Tellurium
AI workflow: daily use of Claude Code, Codex and Cursor, with custom skills for planning, review and testing