GEORGE CONLAN

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EDUCATION

Eastside Catholic School, Sammamish, WA *Expected June 2028*
GPA: 4.0 unweighted / 4.46 weighted · PSAT 10: 1410 · AP Scores: Calculus AB (5), Physics 1 (5), CS Principles (5), CS A (4)
Relevant coursework: AP Calculus BC, AP Physics C, AP Physics 2, AP Computer Science A, AP Language

University of Washington (concurrent enrollment) · CSE 122 (Java), A in progress; Java Programming I and II *Summer 2025 to Present*

Bellevue College (concurrent enrollment) · Multivariable Calculus, then Linear Algebra and Differential Equations *Upcoming*

TECHNICAL SKILLS

Languages: Java, Python, TypeScript/JavaScript, C (embedded), SQL
Libraries / frameworks: JUnit 5, NumPy, scikit-learn, Fastify, Next.js, Prisma, Zod, Vitest, pytest, Zephyr RTOS
Tools: Git/GitHub, Gradle, PostgreSQL (Supabase), Docker, Render, KiCad, Onshape, CadQuery/FreeCAD

EXPERIENCE & VENTURES

Software Team Member, Seattle Solvers FTC #23511 · Seattle, WA *May 2026 to Present*

- Built a differential swerve drivetrain and custom path follower in Java (SolversLib, JUnit 5), plus a browser simulator that matches the Java on 166,400 random inputs and generates autonomous code from planned paths
- Cut mean final position error 6.8x (18.8 in to 2.8 in) and mean autonomous time 16% (5.60 s to 4.71 s) over 42 runs
- Owned path planning in a three-way split of the autonomy stack (path planning, vision, autonomous routines); each change went through an AI review pass, then review by the programming lead before merge

Founder, Finly (smart tracking tags) · C (Zephyr), Python (CadQuery), KiCad *2026 to Present*

- Designed a UWB tracking tag end to end: enclosure, a 39 × 37 mm two-layer PCB (nRF52833 + DWM3000), firmware, phone app and server; now working with PCBWay engineers on the first board run
- Generated the schematic from code to keep parts, pin map and firmware in sync; fixed three faults found in an outside design review

Co-founder, AMRIA Health (amria.org) *May 2026*

- Built, with a team of four, an AI-assisted medical image analysis platform for the CascadiaJS Hackathon, placing 10th of ~300 participants
- Built the Box API integration; as a team, worked out how to make Box (a hackathon requirement) useful rather than bolted on

PROJECTS

Seattle Solvers Tools API · TypeScript, Fastify, Prisma, PostgreSQL, Vitest · github.com/software282/tools-api *Sept 2026 to Present*

- Built a multi-tenant parts-inventory API for FTC teams and deployed it on Render. Implemented JWT authentication with member and admin roles, a shared parts library, and per-team inventory with CSV export.
- Built receipt intake for pasted order emails, PDF invoices, and photos using Tesseract and Claude vision. Matched line items to parts and required user confirmation before updating inventory; scored the system against a labeled receipt set.

Project Parthenon · Python, NumPy · github.com/George-Conlan/parthenon *July 2026*

- Built Chiron, a from-scratch quant research engine (NumPy only, with its own autodiff and Adam optimizer) that trains a transparent, interpretable alpha model on tick-level market data
- Tested results against overfitting with permutation nulls, placebo markets and purged cross-validation

RESEARCH

V8 Engine Thermodynamic Cycle Optimization (in progress) · Independent · Onshape CAD *2026 to Present*

- Working on ways to optimize the thermodynamic cycle of V8 engines to raise their efficiency

Cα Anisotropic Network Model · Independent · Python, NumPy · GitHub *July 2026*

- Predicts per-residue protein flexibility from structure alone by diagonalizing a Cα network's Hessian, benchmarked against experimental B-factors on 99 non-redundant X-ray structures (mean Pearson r = 0.44, Spearman ρ = 0.54, untuned parameters)

COMPETITIONS & AWARDS

- **DECA ICDC Finalist**, Principles of Entrepreneurship (2025) · **5th, State**, Principles of Entrepreneurship (2025)
- **DECA ICDC Qualifier**, Project Management (2026) · **1st, Area**, Financial Consulting (2026) · **11th, State** (2026)
- **3rd Place**, Washington All-Comers Tennis Tournament (2025) · Varsity tennis, Eastside Catholic

VOLUNTEERING

Treasurer, Northwest Hope Society (501(c)(3) nonprofit) *Sept 2026 to Present*

- Manage the books for a nonprofit supplying local kids with school supplies; built NWHS Treasury (Next.js, PostgreSQL) to turn receipt photos into IRS Form 990-tagged records

Volunteer, Private medical clinic, Seattle, WA · Data logging for past patient records *Sept 2025 to Present*

Altar Server, Sacred Heart School and Eastside Catholic (2021 to Present) · **Volunteer Tennis Coach**, Eastside Catholic, middle school players (June 2026)