KEVIN JIANG

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EDUCATION

University of Virginia, School of Engineering and Applied Science — Charlottesville, VA
B.S. in Mechanical Engineering — *Expected May 2030*

Ocean Lakes High School, Mathematics and Science Academy — Virginia Beach, VA
GPA: 4.71 (weighted) — *June 2026*

RESEARCH EXPERIENCE

BenchCAD 2.0: Benchmark for Programmatic CAD — Charlottesville, VA
Undergraduate Researcher, Prof. Cheng Peng, UVA School of Data Science — *Oct. 2026 – Present*
- Multi-university benchmark (benchcad.com) scoring AI-generated CAD; v1.0 was used in Anthropic's system card
- Designing assembly-level scoring for hole alignment and part interference, beyond per-part voxel IoU

Verified AI Generative Design — Charlottesville, VA
Intern, early-stage startup founded by Prof. Stephen Baek — *Oct. 2026 – Present*
- Generate parametric glider parts in PicoGK for a pipeline that verifies AI-generated designs before STEP export
- Built 12 wing variants; polyhedral wings led on stability checks and calculated glide ratio (11.9 vs. 10.8 tapered)

Mirum: Text-to-CAD Assembly Generation — github.com/Azrkiel/Mirum
Independent Research Project — *Mar. 2026 – Present*
- Multi-agent Gemini pipeline turns text into parametric B-Rep CAD assemblies; passed 78 of 82 test prompts
- Fine-tuned Qwen2.5-Coder-7B with LoRA on ABC CAD data (Kaggle), raising valid output from 48% to 78%

Transverse Instability Suppression in Rotating Detonation Engines — Virginia Beach, VA
Senior Capstone, Mathematics and Science Academy — *May 2025 – Mar. 2026*
- Simulated H_2/O_2 detonations in OpenFOAM; a 4 mm resonator neck cut peak pressure by ∼20%

PROJECTS

SignLine: ASL-to-Caption Video Calls — signline-api.fly.dev
Winner, Best Live Demo, Girls Hoo Hack — *Oct. 2026*
- Video calls where a signer's signs become editable captions and the hearing caller's speech is live-captioned
- Classifies MediaPipe hand landmarks on-device; user-taught signs and fingerspelling extend the vocabulary

Speak Up: Impromptu Debate Trainer — speak-up.fly.dev
1st Place, Beginner Track, HackNC — *Oct. 2026*
- Grades spoken arguments with a research-based rubric: AI analyzes the speech, code computes the score

Intent: Idea-to-Build-Plan Agent — show-intent.fly.dev
Nebius x NVIDIA Global AI Hackathon (results pending) — *Oct. 2026*
- Turns a rough idea into a requirement-traced build plan for coding agents using Nemotron models; 853 tests

XVANT: Multi-Agent Orchestration Harness — github.com/Azrkiel/xvant-agent
Personal Project — *Sept. 2026 – Present*
- Runs Codex, Claude Code, and OpenCode agents in parallel on isolated Git worktrees; 1,000+ tests, ∼38k lines

LEADERSHIP

BExSTEM Business and STEM Competition — Virginia Beach, VA
Founder (fiscally sponsored by Hack Club) — *Dec. 2024 – July 2026*
- Ran a startup competition for 201 participants in 13 countries; mentored 3 teams to launch, one to a $200k LOI

Boy Scouts of America — Virginia Beach, VA
Eagle Scout; Junior Assistant Scoutmaster — *June 2015 – Aug. 2026*
- Led 12 volunteers across 172 hours to build 14 oyster castles for the Virginia Aquarium's shoreline restoration

WORK EXPERIENCE

Taichi Bubble Tea, Assistant Manager: led 8 staff; grew monthly revenue 23% — *Mar. 2026 – Present*

Tidewater Chinese School, Math Teacher: taught 30 elementary and middle schoolers — *Aug. 2023 – June 2026*

TECHNICAL SKILLS

Languages & ML: Python, TypeScript, Java, SQL, PyTorch, PyTorch Geometric, Hugging Face, LoRA, MediaPipe
3D & Tools: CadQuery, OpenCASCADE, PicoGK, OpenFOAM, Fusion 360, Inventor, Git, Docker, FastAPI, Next.js