

Rafay Farah

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EDUCATION

University of Washington

Expected June 2028

Bachelor of Science in Computer Science

Bothell, WA

- **GPA: 3.99/4.00** | Dean's List
- **Relevant Courses:** Data Structures & Algorithms, Object-Oriented Programming, Discrete Mathematics, Database Systems, Software Engineering, Software Design, Statistics

EXPERIENCE

Undergraduate Research Assistant

Aug 2026 – Present

Carnegie Mellon University, S3D

Pittsburgh, PA

- Build automated **Python** evaluation pipelines for multimodal sketch-to-code systems across repeatable runs
- Debug evaluation workflows and investigate recurring model failures across visual programming tasks
- Design a follow-up study comparing current models against a prior **36%** instantiation-accuracy baseline
- Develop evaluation methodology for newer multimodal models and potential voice-and-sketch interaction
- Collaborate with PhD researchers to interpret experimental results and shape follow-up experiments

NSF REU Undergraduate Research Intern

June 2026 – Aug 2026

University of Pittsburgh, LRDC FACET Lab

Pittsburgh, PA

- Selected as **1 of 7** students for a nationally competitive software engineering research internship program
- Built and deployed Cora, a full-stack **Next.js/TypeScript** tutoring platform now being tested in several Pennsylvania high schools, implementing user-facing features, and preparing the product for classroom use
- Integrated **Claude, Gemini, and OpenAI APIs** behind a unified model workflow, debugging application behavior across tutoring and evaluation tasks and improving reliability across AI-guided interactions
- Collaborated through **Git**, pull requests, code reviews, testing, and weekly team design discussions to implement new features, resolve issues, and improve software quality before classroom deployment and field testing

Software Engineer

Jan 2026 – June 2026

Startup Club

Bothell, WA

- Developed a **React/TypeScript** company-discovery platform with database-backed search and filtering, helping evaluate **500+** prospective companies and reducing manual research time by **40%** while accelerating outreach
- Built and tested end-to-end API workflows integrating **3+** external services, backend logic, and persistent data storage to transform raw company data into structured insights and ranked outreach recommendations
- Translated **10+** product requirements and user stories into scoped engineering tasks, iterating through weekly **Agile** development cycles to deliver features more efficiently and align the product with stakeholder needs

HACKATHONS & PROJECTS

HackMIT 2026

Sep 2026

Insta Insights | *Next.js, TypeScript, Elasticsearch, Python, Meta Muse Spark* | [GitHub](#)

Cambridge, MA

- Built a full-stack social intelligence platform that transformed **41K+** messages across **400+** Instagram/WhatsApp conversations into structured relationship insights by parsing and normalizing raw Meta exports
- Surfaced dormant relationships, unanswered messages, and unfinished plans by engineering an **Elasticsearch** retrieval and ranking pipeline with deterministic signal scoring, closeness modeling, and **BM25** fallback search
- Generated evidence-grounded reconnection insights by integrating Meta's **Muse Spark API**, validating model outputs against source messages, and serving structured results through typed APIs to a **Next.js** frontend

SWECCathon 2026

May 2026

JengaBench | *Python, PyBullet, NumPy, Mesocasm* | [GitHub](#)

Seattle, WA

- Built a deterministic 3D physics simulation environment in **Python/PyBullet** with constrained actions and repeatable test scenarios for evaluating spatial reasoning and planning
- Orchestrated **50+** automated simulation trials across **GPT-4, Claude, and Gemini**, analyzing failure patterns across repeatable runs and earning **Top 3** at **SWECCathon** competition

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, C++, SQL, R, HTML/CSS

Frameworks & Libraries: React, Next.js, Node.js, FastAPI, Spring Boot, PyTorch, NumPy, PyBullet

Platforms & Tools: Git, GitHub, Linux, Docker, AWS, Vercel, CI/CD, REST APIs, PostgreSQL, Supabase