

PRANAL SIRIPURAPU

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EDUCATION

University of Pittsburgh

Bachelor of Science in Computer Science

Pittsburgh, PA

Expected Dec. 2028

- **Relevant Coursework:** Data Structures & Algorithms, Systems Software, Computer Organization & Assembly Language, Discrete Structures, Object-Oriented Programming

EXPERIENCE

Undergraduate Researcher

Visualization and Image Analysis Lab

Aug. 2026 – Present

Pittsburgh, PA

- Applied an in-house **Python medical-imaging pipeline** to produce 3D Circle of Willis vessel models from 7T MRI scans, reducing a **20–40 hour manual segmentation workflow to under 30 minutes per scan**.
- Traced cerebral artery pathways using **shortest-path graph search** and statistical separability scoring to distinguish vessel structures from surrounding tissue and imaging noise.

Web Development Intern

University of Pittsburgh

Sep. 2025 – Dec. 2025

Pittsburgh, PA

- Modernized University of Pittsburgh web applications as part of a **4-person engineering team**, refactoring existing systems and migrating interfaces to updated architecture and UI standards.
- Redesigned interfaces for adult learners ages **50+** to meet **WCAG accessibility standards**, improving navigation, readability, contrast, and usability across university web applications.

Software Engineering Intern

Vercible

Jun. 2024 – Aug. 2024

Sammamish, WA

- Built a **GPT-3.5-powered recommendation system** that converted natural-language student requests into structured filters across **700+ internships and programs**, enabling users to discover opportunities without relying on exact keyword searches.
- Designed a **multi-factor ranking algorithm** across location, GPA, major, and cost, replacing rigid keyword matching with weighted scoring to rank partial matches against user preferences.

PROJECTS

Codebase Auto Documentator | *Node.js, Express, SQLite, GitHub REST API*

Aug. 2026

- Built a **Node.js/Express documentation platform** that analyzes connected GitHub repositories and generates **5 documentation types**, automatically regenerating documentation after commits through verified GitHub push webhooks.
- Integrated the **GitHub REST API, webhook event handling, and SQLite** to retrieve repository data, detect new commits, and persist generated documentation across application sessions.

TECHNICAL SKILLS

Languages: Java, Python, C, JavaScript, HTML/CSS

Frameworks: React.js, Node.js, Express.js, Spring Boot, Flask, Vite

Tools & Technologies: Git, SQLite, GitHub REST API, REST APIs, GitHub Webhooks

PUBLICATIONS & AWARDS

Reconciling Authorship and Artificial Intelligence: A Human Contribution Framework

Mar. 2026

- Published in the *Pittsburgh Undergraduate Review*, Vol. 5, No. 1. DOI: [10.5195/pur.2026.150](https://doi.org/10.5195/pur.2026.150)

Kuzneski Innovation Cup Winner

Oct. 2025

- Won for prototyping a biodegradable PCB substrate using **hemp and bamboo fibers with polyhydroxyalkanoates** as an alternative to conventional circuit-board materials.