

# Brayden Nguyen

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## EDUCATION

### University of Pittsburgh

*Bachelor of Science in Computer Science*

Expected Graduation: April 2026

*Pittsburgh, PA*

- **GPA:** 3.93
- **Relevant Coursework:** Data Structures & Algorithms, Web Development, Database Management Systems, Algorithm Design, Software Quality Assurance, Operating Systems, Systems Software, Computer Organization

## EXPERIENCE

### PNC Software Engineer Intern

May. 2024 – Present

*PNC Bank*

*Pittsburgh, PA*

- Engineered the first customer-facing virtual assistant using JavaScript to improve car loan turnover rate
- Utilized natural language processing with spaCy to parse keywords and synonyms from FAQs to fine-tune the LLM
- Architected a proof of concept RAG pipeline using Azure Open AI for a content secure search assist
- Automated page printing to PDF for hundreds of urls through Selenium to efficiently gather training data

### Augmented Reality Research Lead

Jan. 2024 – Present

*Surreality Lab @ UPMC*

*Pittsburgh, PA*

- Developed a WebSocket API connecting electric scalpels to AR, enhancing precision and reducing contamination
- Leveraged a machine learning model to auto-segment interfaces to augmented reality dashboard

### Large Language Model Research Assistant

Sep. 2023 – Dec. 2023

*Human-AI Integration Lab @ UC Santa Barbara*

*Santa Barbara, CA*

- Simulated Hobbesian Social Contract Theory using generative agents using OpenAI to test his findings
- Constructed a conversation algorithm for generative agents to propose and discuss policies increasing complexity

### Full Stack Software Developer Intern

June 2023 – Aug. 2023

*Responsive Medicine/Responsive Health*

*Camden, DE*

- Migrated company website from Wix to self-hosted React and Node web-app to create a projected \$20,000 savings year after year and increasing productivity of front-desk scheduling team by 60%
- Added a scheduler using Google Calendar API and PostgreSQL to reduce the friction of scheduling for patients
- Crafted a script using OpenCV to process handwritten forms onto an excel sheet for better tracking and processing

## PROJECTS

### The-Social-Space.com | *Python, Flask, React, AWS, Docker*

Feb. 2024 – Present

- Hosted to over 10,000 users on an AWS EC2 instance with containerized backend and frontend using Docker
- Graphically represented TikTok's social media algorithm through 300,000+ video data with an interactive Three.js and WebGL 3d graph to use for sociological and marketing analysis
- Created a custom weighted graph data structure and a Flask API to easily connect to a React Force Graph

### MediLingual | *Python, OpenAI, LangChain, Git*

1st Place Healthcare @ Yale Univ. Hackathon '24

- Constructed a bedside assistant providing medical domain-specific multilingual translation services in 99 languages
- Developed a Flask REST API that handles any combination of 4581 to ease translation between patient and doctor
- Utilized Whisper and OpenAI API with few-shot and chain-of-thought prompting to remove any untranslatable/confusing medical jargon

### ASLModel | *OpenCV, TensorFlow, React*

1st Place @ Univ. of Pitt Hackathon '23

- Trained a CV model from 25,000 hand images of ASL signs, allowing for automatic ASL to English translation
- Created web-app with React to interface with webcam and create an accessible interface which allows for continuous integration of user training data for model improvement

## TECHNICAL SKILLS

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

**Frameworks:** React, Next.js, Node.js, Flask, LangChain, JUnit, Express.js

**Developer Tools:** Docker, Amazon Web Services, Google Cloud Platform, Postgres, SQLite, Linux, Git, MongoDB

**Libraries:** pandas, OpenCV, spaCy, NumPy, Matplotlib, JUnit, TensorFlow, PyTorch, scikit-learn

**Concepts:** Machine Learning, Artificial Intelligence, Augmented Reality, Full-Stack Software Engineering, NLP, Agile