

# Katrina Rachel Panlilio Viray

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## Education

### University of Houston

Bachelor of Science in Computer Engineering, Minor in Mathematics

Expected December 2025

Houston, TX

- Cumulative GPA: 3.8/4.0
- **Relevant Coursework:** Data Structures, Computer Networks, Programming Applications in C, Microprocessors

## Experience

### Microsoft

May 2024 - August 2024

Software Engineer Intern - Availability Platform Team

Redmond, WA

- **Technologies:** C#, Moq, PowerShell, KQL, Azure, JSON
- Established the first real time connection for Azure's repair and root cause analysis services for 200K+ customers
- Reduced VM downtime by 10+ minutes by using real-time root cause data of VM failures to fast track repairs in C#
- Improved root cause clarity for VM failures by querying fault info with KQL, updating 30% of Kusto's records
- Built an optimized decision tree for root causes, accelerating VM failure diagnosis by 50% for stop and destroy tasks

### Burns & McDonnell

May 2023 - August 2023

Systems Engineer Intern - Power Distribution Team

Houston, TX

- **Technologies:** CYME, Python
- Implemented distribution automation strategies with recloser, trip saver, and fuse placement for 10,000+ customers
- Utilized CYME software to enhance reliability, achieving a 25% reduction in power outage downtime for customers
- Developed Python scripts to automate device placement on circuits within CYME, saving 100+ hours per year

### NASA

January 2023 - May 2023

Software Engineer Intern - Avionics Systems Team

Houston, TX

- **Technologies:** Python, C, HalCoGen
- Created a Python GUI for a pick-and-place machine, boosting data entry efficiency by 70% by generating databases
- Automated the data logging process for circuit boards by generating code with Python, saving 30+ hours per year
- Developed a PID microcontroller with C and HALCoGen for stable and efficient temperature regulation in radiators

### University of Houston

February 2022 - Present

Undergraduate Research Assistant - Machine Learning

Houston, TX

- **Technologies:** MATLAB
- Analyzed sleep signals from 5000+ patients with multiple linear regression using Linux cluster computing
- Generated statistical insights and visualizations to identify significant links between sleep stages with MATLAB
- Examined an EEG signal to perform artifact removal through signal analysis and filtering out delta and beta waves

Teaching Assistant - Microprocessor Systems

Houston, TX

- **Technologies:** Assembly
- Reinforced low-level concepts such as memory devices and microcomputer architecture for 40+ students
- Led weekly labs, conducted office hours, helped students with Assembly, and graded assignments and exams

## Projects

### Recipeas Web Application | MongoDB, Express.js, Node.js, React.js, Tailwind CSS

- Built a full-stack web app with CRUD functionality and user authentication to store recipes with the MERN stack
- Developed and designed 10+ responsive UI/UX pages and components with React.js, Tailwind, and Figma

### PID Motor Control System | C++, Arduino

- Designed an analog PID controller with operational amplifiers, enhancing DC motor stability and precision
- Programmed an Arduino for real-time data processing and DC motor control, achieving 35% faster stabilization

### Pong | C++, SDL2

- Created Pong by implementing paddle movement, ball physics, and collision detection with OOP concepts and C++

## Technical Skills

**Languages:** Python, C++, C#, C, JavaScript, HTML, CSS, PowerShell, KQL, Assembly, MATLAB

**Frameworks & Libraries:** React.js, Express.js, Node.js, Tailwind CSS, JSON

**Developer Tools:** Git, GitHub, SVN, MongoDB, Azure, Postman, Vercel, Figma