# Katrina Rachel Panlilio Viray

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## Education

**University of Houston** — Expected December 2025
*Bachelor of Science in Computer Engineering, Minor in Mathematics* — *Houston, TX*
- Cumulative GPA: 3.8/4.0
- **Relevant Coursework:** Data Structures, Computer Networks, Programming Applications in C

## Experience

**Microsoft** — May 2024 - August 2024
*Software Engineer Intern - Azure Core, Elixir Team* — *Redmond, WA*
- **Technologies:** C#, PowerShell, KQL, Azure, JSON
- Improved Azure stop and destroy repair processes by 50% by implementing unit tests and asynchronous C# tasks
- Developed an optimized root cause decision tree, improving VM failure diagnosis by 30% for stop operations
- Linked Azure's repair and root cause analysis services for 200K+ customers by identifying key downtime causes

**Burns & McDonnell** — May 2023 - August 2023
*Systems Engineer Intern - 1898 & Co, 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 - Command and Data Handling* — *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 - December 2022
*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

## 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

**Pong** | *C++, SDL2*
- Created Pong by implementing paddle movement, ball physics, and collision detection with OOP concepts

**Pulse Oximeter** | *C++, Arduino*
- Developed an Arduino-based embedded system to create a pulse oximeter for measuring oxygen saturation levels
- Programmed a PPG sensor to obtain pulse data and plotted the raw pulse signal on the serial plotter

## Technical Skills

**Languages**: Python, C#, C++, C, PowerShell, MATLAB, JavaScript, HTML, CSS, KQL
**Frameworks & Libraries**: React.js, Express.js, Node.js, Tailwind, JSON
**Developer Tools**: Git, GitHub, SVN, MongoDB, Azure, Vercel, Postman, Figma