VANESSA CHING 🔗

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EDUCATION

Johns Hopkins University, Whiting School of Engineering   **Baltimore, MD**
Bachelor of Science in Computer Science, Minor in Film and Media Studies   August 2024 - May 2028
- Relevant Coursework: Computer Systems Fundamentals, Intermediate Programming, Gateway Computing: Python

SKILLS

Programming & Scripting: Python, C, C++, Java, PHP, SQL, HTML, CSS, x86-64
Libraries & Frameworks: NumPy, Matplotlib, Pygame
Development Tools & Software: WordPress, Git, GitHub, VS Code, MySQL, XAMPP, Linux

PROJECTS

AI Readezzy Reading Assistant   **August 2025**
- Developed a WordPress plugin for a digital library to provide an AI reading assistant with text/voice interaction
- Implemented backend functionality in PHP to handle REST API requests, user avatars, and session data storage
- Engineered MySQL database schema to log questions/answers for analysis, enabling personalized reading experiences

Harvard Forest Eddy Flux Data Analysis   **December 2024**
- Analyzed Harvard Forest Eddy Flux data using Python, utilizing NumPy for data processing and Matplotlib for time series and regression models
- Developed statistical models to estimate CO_2 flux, identifying trends and missing data while optimizing data handling

Tetris Game Replica   **October 2024**
- Developed core game logic in Python using Pygame by implementing and optimizing piece movement, rotation (with method overloading), collision detection and row clearing
- Analyzed class interactions between Point, Tetromino, and Board structures to ensure seamless integration

EXPERIENCE

Social Cognitive Artificial Intelligence (SCAI) Laboratory   **Baltimore, Maryland**
Research Assistant   August 2025 - Present
- Extending SimWorld, an Unreal Engine 5–based embodied AI simulator, by integrating Python APIs for procedural environment generation, agent control, and multimodal research in social cognition and human–AI interaction
- Implementing sound design, VR compatibility, and a web interface to broaden simulator accessibility and support city-scale, dynamic experiments with interactive deployment

Frenalytics   **Remote**
Readezzy Software Intern   May 2025 - August 2025
- Coordinated core components of an accessibility-focused reading assistant for users with cognitive disabilities
- Engineered backend functionality using PHP, JavaScript, and C++ within a XAMPP and WordPress environment
- Handled server-side logic, database interactions, and integration of custom features into a WordPress framework

LEADERSHIP & COMMUNITY INVOLVEMENT

The Hopkins Student Organization for Programming (HOP)   **Baltimore, MD**
Fine Arts Committee   August 2024 - Present
- Plans and organizes fine arts programs on campus, including Candle Making, Resin Keychain, and Zine Workshops
- Contributes to broader HOP initiatives that enhance student life, such as FDOC treats, finals week de-stress events, and community programs

ADDITIONAL INFORMATION

Other Activities: Student Government Association Programming Council for the Class of 2028, Pi Beta Phi Fraternity for Women
Honors & Awards: Dean's List (Fall 2024), VEX Robotics Spin Up NCCA I Judges Award (2023), VEX Robotics Tipping Point Worlds Qualification (2022), and VEX Robotics Tipping Point Design Award (2022), National Honor Society Scholar (2024), The Congressional Award Silver Medal from GA-07 Representative McBath (2024), and 7X Presidential Volunteer Service Award Gold Medal (2018-2024)