# **Marcus J. Peters**

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Ithaca, NY 14853

**Education**

**University of Sydney/ Cornell University** Ithaca, NY

Bachelor of Advanced Studies, Major in Software Development Expected May 2024

**University of Sydney/ Cornell University** Ithaca, NY

Bachelor of Economics, Major in Financial Economics Expected May 2024

**St. Andrew’s College** Sydney, AU

Certificate in Complex Problem Solving (Politics, Philosophy and Economics) Completed July 2022

**Related Courses:** Object-Oriented Programming, Calculus I & II, Discrete Structures, Data Structures and Algorithms, Introduction to Artificial Intelligence, Embedded Systems, Intermediate Web Development, Human Computer Interaction, Financial Econometrics, Macroeconomics, Microeconomics, Cryptocurrency and Markets, Behavioural Economics

**Experience**

**Software Developer** May 2023 –

Cornell University Web Development Team Ithaca, NY

* Focused on upgrading legacy backend systems to a JS and Ruby on Rails based system using Ubuntu based servers.
* Implemented testing with automated tests (RSpec and Cucumber) and remediated Cornell’s web applications for accessibility and bug-related issues.

**Drew’s Bot for St. Andrew’s College** August 2022 - Present

St. Andrew’s College Sydney, AU

* Acquired a $5000 grant to develop a chatbot leveraging Facebook's API webhooks and Heroku virtual servers, employing continuous integration to continually improve its capabilities, based on user feedback.
* Developed using node.js, AWS Lambda, and the AWS RDS API to store satisfaction data.
* Engineered the bot to gather critical data on student satisfaction with dining hall menus, provide direct access to "Personal Support Leaders," and enhance communication between administrators' announcements and students.
* Utilized the bot as a pedagogical instrument to teach computer science concepts in the "Introduction to Technology and Programming" seminars for both students and staff at St. Andrew's College.

**Bop It! Emulator (3rd place prize)** April 2023

Cornell University Ithaca, NY

* The project replicated the "Bop It" toy using a FRDM-KL46Z microcontroller board. The MCU’s GPIO pins are utilized to connect on-board peripherals, with the firmware programmed using C to process input signals.
* The firmware detects button presses and generates corresponding signals sent through the board's serial port. The accelerometer is configured to generate signals based on movement or orientation changes.
* A Python script running on an external PC reads the serial data from the microcontroller board using UART, parsing and displaying it in a suitable format on a monitor. Pygame is used for GUI and user interaction.

**Search Engine Project** June 2022

University of Sydney Sydney, AU

* Developed a JavaFX GUI utilizing the Guardian Newspaper's API with Model-View-Controller architecture.
* Implemented concurrency and thread locking to ensure smooth GUI functionality during HTTP requests.
* Utilized SQLite for caching search results, improving retrieval efficiency.
* Integrated Pastebin and Reddit APIs to enable saving and sharing of search results.

**Technical Skills**

* **Back-end Development Tools:** Python, Java, C, ARM, C++, OOP Programming, Ruby
* **Front-end Development** **Tools:** HTML5 & CSS3, React JS, Node JS, PHP, Javascript, Ruby on Rails
* **Developer Tools:** Git, Docker, GitHub, Jenkins, AWS, Heroku, VS Code, MCUExpresso, RSpec, Cucumber

**Extracurricular Activities**

**St. Andrew’s College Soccer Team/ Cornell University Rugby Team** Sydney, Australia/ Ithaca, NY 2020-Present

* Recipient of the Rawson Moment of the Year award (2023) and College Spirit Award (2023)