Melody Chan

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Education

BA/MS Degree in Computer Science — Sep 2019 - May 2023
College of Arts and Science, Boston University — *Major GPA:* 3.84/4.0
Minor in Business Administration and Management — Sep 2019 - May 2023
Questrom School of Business, Boston University — *Minor GPA:* 3.90/4.0

Experience

Part-time Software Engineer — May 2023 - Present
Bepsun New Business Systems Inc.

- Communicate with team members to clarify project functionalities, define requirements, and establish timelines.
- Develop project proposals for a product-selling video sharing application, designed to seamlessly integrate with the company's B2B e-commerce system (UCCP).

Researcher — Sep 2022 - may 2023
Boston University Computer Science Department

- Aim to improve predictability and efficiency of real-time systems through cache management strategies and memory hypervisors in Linux ARM.
- Manually flash and reboot NVIDIA Jetson TX1 and Xavier modules to set up the systems for research.
- Apply memory contention on specified cores using real-time benchmarks and results show the size of contention and the structure of cache hierarchy are critical factors affecting the latency/predictability of a system.
- Implement cache partitioning techniques utilizing black-box profiling benchmarks to efficiently analyze the memory access patterns of specific applications, observe impacts of core interference, and improve the overall application latency.

Skills

- **Programming Language:** Java, Python, C, Kotlin
- **Android App Development:** Android Studio, Google Cloud APIs, HTTP requests
- **Markup/styling:** Latex, HTML, CSS, Material, Bootstrap
- **Project Management:** Git, GitHub, Agile, Scrum, UML
- **Computer Systems:** Linux, Real-time systems, Embedded systems, Benchmarking
- **Data Science & Machine Learning:** Pandas, Sklearn, Matplotlib, Numpy, NLTK, Seaborn, Data Analysis, Image and Video Computing

Projects

Android Mobile App: PopUpTrip at Boston University — Spring 2023

- Developed and designed a user-friendly interface using Android Studio and Kotlin which suggests places to visit based on user-specific preferences(location, place types...)
- Frontend: Designed fragment layouts, adhered to Material Design guidelines for components such as AlertDialogs, ListViews, InputTextViews...
- Backtend: Implemented navigation between fragments, API HTTP requesting fetching and response handling, access requests for device geo-location, autocomplete searchbars.
- Collaborated with a team of 6 while ensuring efficient project management. Utilized Git for version control and task tracking.

Self-balancing Ball System at Boston University — Spring 2022

- Implemented a PID controlled feedback-loop system using C, similar to the concept of self-driving vehicles, which self-learns on the ball's physical position and calculates the appropriate amount of force to apply in order to maintain balance.
- Assembled hardware components, including LCD display, LED boards, joysticks, servo motor-controlled platforms, and utilized Linux timers and interrupts to achieve precise control and real-time responsiveness of the system.
- Integrated various peripherals, such as ADC and DAC, servo motor PWM, and signal filtering.