





Justine Tran

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EDUCATION

University of Houston

December 2023

Bachelor of Science in Computer Science, Concentration in Software Design

Research with Real-Time Systems Laboratory, Department of Computer Science

Relevant Courses: Software Design, Object-oriented Programming, Algorithms & Data Structures, Operating Systems, Computer Architecture, Real-time Processing and Embedded Programming, Database Systems, Computer Networks

Languages and Tools: C/C++/C#, HTML/CSS, Java, JavaScript, SQL, Git/GitHub, Android Studio, ASP.NET, Azure, Firebase, Figma, VxWorks, Visual Studio, Node.js, React, AWS Certified Developer (in-progress certification)

RESEARCH

Evaluation of Hybrid Global Branch Prediction for WCET Analysis | *SimpleScalar* January – May 2023

- Demonstrated improved branch prediction accuracy and reduced WCET in real-time systems by comparing dynamic branch prediction and hybrid global branch prediction using the bubble sort algorithm.
- Validated the approach's superiority over two state-of-the-art method showcasing a maximum WCET improvement of 32.4% and an average WCET improvement of 7.67%.

Optimizing WCET: Machine Learning to Enhance Branch Prediction | *GEM5, Python* June – Dec 2023

- Implemented a decision tree-based machine learning model for dynamic branch prediction to surpass the performance of traditional methods in GEM5 and Python
- The decision tree, when coupled with a branch predictor, effectively minimizes mispredictions, resulting in a performance speed improvement of 0.02 seconds. Nevertheless, this enhancement is accompanied by a rise in the Worst-Case Execution Time (WCET).

PROJECTS

Project Management System | *JavaScript, ASP.NET, C#, CSS, SQL* January 2023 – May 2023

- Designed & developed project management website empowering businesses to efficiently oversee tasks & projects

Fuel Rate Prediction Software Application | *Javascript, React, Firebase* January 2023 – May 2023

- Utilized location data, user history, fuel usage, and company profit margin as key factors for predicting fuel rates.
- Implemented both user and client side interfaces to deliver a seamless digital experience, enhancing user satisfaction and improved client engagement

Fitstagram | *Java, Android Studio, Firebase, XML, Figma* January 2022 – May 2022

- Developed Android app akin to Instagram, enabling users to post, comment, & vote on content for decision making.

EXPERIENCE AND LEADERSHIP

Tutor Me Education | *Computer Science Tutor* June 2023 – Present

- Communicated advanced programming languages and concepts to students during 1-On-1 tutoring sessions.

Cyber-Physical Systems and Internet-of-Things Week | *IEEE Member* May 2023

- Gained valuable knowledge and insights from leading researchers in the field through networking and workshops.
- Secured sponsorship through effective relationship building and demonstrated strong academic performance

Code Coogs | *Marketing Director, Team Lead* August 2022 – Dec 2023

- Organized a learning session and facilitated a hands-on workshop on Android Studio for beginners
- Executed strategic marketing initiatives, actively updating LinkedIn and Instagram to promote brand initiatives.
- Facilitated professional meetings for members & professionals, fostering networking & learning opportunities.

CSGirls | *Member* August 2022 – Dec 2023

- Collaborated with the Activities Director to brainstorm and generate creative concepts for social events
- Participated in networking events, tech talks, and professional development workshops to enhance soft skills