

Talha Khalil

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EDUCATION

University of Texas at Austin

Masters of Computer Science
(Part Time)
2022 - Present

University of Calgary

Bachelor of Science in Electrical Engineering
Minor in Computer Engineering
GPA: 3.85/4.0
2017 - 2022 (with Internship)

SKILLS

Programming Languages

C, C++, Python, and C#

Graduate Courses

Parallel Systems

Undergrad Courses

Embedded systems, Compilers, Operating Systems, Machine Learning, Computer Networks, Computer Architecture

Other

Git, Gerrit, Jenkins, Agile Development, SCRUM, CI, 3D Printing

LEADERSHIP EXPERIENCE

Digitronics | University Club

Sept. 2019 - Apr. 2020

- Mentored 20 members
- Created lesson plans for teaching C and interfacing with embedded hardware
- Debugged student projects
- Organized club events

Project 90 | University Club

Sept. 2017 - Sept. 2019

- Team lead in charge of 15 students
- Designed and built a plastic compressor machine
- Designed and wired the electrical hardware of 3 other machines

AWARDS

Biomedical Engineering Research Grant

Dean's List 2017-22

Jason Lang 2017-20 (3 Year Max)

Alexander Rutherford Scholarship

First Year Scholar

EXPERIENCE

Software Engineer | Garmin

Jan. 2022 - Present | Software Engineer | Cochrane

- Primarily work in C, C++ and Python
- Lead and review software architecture designs
- Working on embedded code contained in watches
- Working on tools supporting biometric algorithm development
- Increased off-device simulator speed by 300%
- Revitalized on-device data simulator
- Found and addressed multiple buffer overflows causing indeterministic behavior on watches

Jan. 2021 - Dec. 2021 | Software Intern | Cochrane

- Primarily worked in C#, Python and C++
- Worked on Rally Power meters
- Created library to automatically upload test results to ALM tool
- Ensured no product battery life regression with automated current testing
- Improved robustness of nightly regression tool by reducing false failures
- Created technique for regression testing using computer vision
- Extended software capabilities of testing hardware
- Increased visibility of verification metrics by creating a product dashboard

Undergraduate Tutor | University of Calgary

Jan. 2020 - Dec 2020 | Calgary

- Tutored first year and second year engineering students with course work

Undergraduate Researcher | Hotchkiss Brain Institute

May 2019 - Sept 2021 | Calgary

- Sped up data acquisition and analysis through creation of automation tools

PROJECTS

Compiler | C++, MIPS Assembly

- Wrote a compiler converting a subset of Java into MIPS Assembly

CPP Memory Diagram Tool | Javascript | Capstone

- With a team created a website to create memory diagrams for C/C++
- Converted *diagram to code*, and *code to diagram*

Course Registration System | Java, SQL

- Developed a server-client application, with a login and registration system used for student class enrollment
- Learned how to create a database and improved on OOP principles

Arduino - Android Mesh Network | C++

- Designed and created a device which used LoRa, Arduino and Bluetooth to send messages
- Learned how to better write state machines

Audio Clock | C

- Designed and created an audible clock for visually impaired individuals using PIC microcontroller and C
- Learned how to better make use of interrupts to write non-blocking code

Remote Controlled Car | C

- Created a remote-controlled car for the Arduino microcontroller in C
- Used this knowledge to create a lesson plan for *Digitronics* and better understand wireless communication