Isaac Schroeder

Computer Science Student

https://www.linkedin.com/in/isaac-schroeder-5753431bb/

507 Medavista Drive, Columbia, MO	573-864-5535	isaacschrdr@gmail.com

EDUCATION

Bachelor of Science in Computer Science   **Anticipated Graduation Date: May 2023**

Minor in Mathematics   **GPA: 3.99/4.00**

University of Missouri, Columbia   Columbia, Missouri

PROFESSIONAL EXPERIENCE

Corporate Engineering Intern (Embedded Software Engineer) - *Caterpillar Inc*   **May 2022 - August 2022**

- Worked as part of an engineering team to design, develop, integrate, and test software features on embedded electronic controls for use in Caterpillar Track-Type Tractor machine applications
- Designed, implemented, and tested a complete rework of a significant feature for medium sized tractors
- Implemented primarily in C, producing code for multiple control modules
- Development process involved crafting feature logic, processing inputs and outputs, communicating with other controllers, and the consideration and handling of fault scenarios
- Utilized various methods of testing and debugging (Both Hardware-in-the-loop and Software-in-the-loop)

Electrical/Software Engineer Intern - *PlasmaDent Inc by Nanova*   **June 2020 - December 2020**

- Worked Closely with Electrical and Mechanical Engineers on a research and development team to create and program embedded systems for new innovative medical products
- Primary focus of programming embedded systems in C and limited Assembly
- Created intuitive state-machine based software, interacted with external sensors and output devices via multiple communication protocols, developed several software iterations for evolving prototypes
- Determined electronic components to be used in prototypes, analyzed component datasheets, and debugged electronic issues on several prototype boards

TECHNICAL SKILLS

- **Languages:** C, C#, Java, C++, Python, SQL, Javascript, HTML/CSS, Php
- **Tools:** Git/Github/Ivy, Unity, MPLab, Android Studio, Visual Studio, Eclipse, Arduino, Clearcase, CANape, CANalyzer, Trace32, VIM, GoogleTest, Valgrind, GDB, Unreal
- **Concepts:** Object Oriented Programming, Embedded Systems, Data Structures, Game Programming and Design, Application Programming, Databases, Digital Circuits and Logic, RTOS, HIL/SIL testing, Agile Framework

PROJECTS

- **"Brain Game Suite"** - *Game Development*
  - Currently working with the University of Missouri IT and Psychology departments to produce a suite of games for investigating and collecting data on how music affects cognitive ability
  - Utilizing the Unity game engine for game framework and blender for 3D modeling and animation
  - Designing 3 unique games with score tracking and difficulty scaling for test participants to play
- **"DiscoTron"** - *Android App Development*
  - Developed an Android application for keeping track of scores for disc golf games
  - Learned how to create an android application, plan and organize a larger software project, design structures for and persist user data with a document-oriented database, and utilize a version control system
  - *Project link:* https://github.com/isaacschroeder/Discotron

ACTIVITIES AND HONORS

- Game Development Research Assistant for University of Missouri IT Department (2021-Present)
- Mentor for First Robotics Competition Team #3792, and Member of Ri3D "Zoukeepers" and Mizzou FirstAlumni Club (2015-Present)
  - Volunteered for and ran numerous STEM themed outreach camps to support the team and community
  - Rocket city Regional Champions (2018), Engineering inspiration award for outreach and community involvement