

Luke Harwood

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SUMMARY

Junior Computer Science student at the Milwaukee School of Engineering (MSOE). Able to maintain rigorous workload with exceptional performance while working up to 30 hours of work per week during the school year. Skills in Java, Kotlin, Python, Tensorflow, C++, Docker, HTML, CSS, and Javascript.

EDUCATION

B.S. Computer Science | Milwaukee School of Engineering | GPA: 3.80 | expected May 2024

INTERNSHIP EXPERIENCE

Software Development Intern | NeoSoft Medical | Pewaukee, WI | November 2021 – Present

Worked with other engineers in testing, debugging and implementing new features in software.

- Worked in Java refactoring medical imaging application to prep for automated testing procedures.
- Used the Swing framework to fix bugs in the application
- Gained experience in writing and running verification procedures

Result: Experience in Java Swing application development and product verification

PROJECT EXPERIENCE

pysimulate: A python package designed to run simulations for building virtual self-driving cars

- Designed, built and deployed an API for building custom simulations using Pygame, NumPy and Tensorflow
- Used Reinforcement Learning (Deep Q-Learning approach) to train an agent to drive the car using rewards
- Implemented the Genetic Algorithm to train the network in a genetic simulation

Result: A simulation where the vehicle was successfully able to navigate the track without human input

Java Application: Team Wordle application using Java, JavaFX and Scrum framework

- Used the SCRUM framework to build and test a complex application
- Built using JavaFX, Java, and Kotlin within a team environment
- Went above and beyond project requirements to design and build a server to enable multiplayer gameplay

Result: A full scale tested 'Wordle' application capable of multiplayer use

Kotlin Ktor Project: Web/Game server for multiplayer gameplay

- Started a team of 3 students to orchestrate the design and execution of a server for multiplayer gameplay
- Deployed containerized Kotlin Ktor server using Docker, Traefik, and MongoDB
- Designed and built a framework for clients to easily access the service

Result: A deployed game/web server able to be accessed by multiple clients asynchronously

TECHNICAL SKILLS

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|----------------|--------------|--------------------------|---------------------|
| ▪ Java | ▪ Docker | ▪ SkLearn/SciPy | ▪ C++ |
| ▪ JavaFX/Swing | ▪ Javascript | ▪ MatPlotLib | ▪ Network Protocols |
| ▪ Python | ▪ HTML/CSS | ▪ Tensorflow | ▪ Git/SVN |
| ▪ Pandas | ▪ Kotlin | ▪ Reinforcement Learning | ▪ Node.js |
| ▪ NumPy | ▪ Ktor | | ▪ MySQL |

CO-CURRICULAR INVOLVEMENT

Member | AI Club | September 2022 – Present

WORK HISTORY

Server | The Melting Pot in Brookfield | June 2020 – Present

Software Development Intern | NeoSoft Medical | November 2021 – Present