Thomas Fitzgibbons

Software Engineer

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Objective: Software Engineer graduate with professional experience in full stack development looking to obtain a full-time entry position

Education

2016 – June 2021

BS in Software Engineering

Purdue University

Major GPA: 3.0 / 4.0

Relevant Course Work: Object Oriented Programming, Computer Architecture, Data structures and Algorithms, Systems Programming, Linear Algebra, Discreet Mathematics, Software Engineering, Information Systems, Software Testing, Computer Networking, Operating Systems

Work Experience

Feb, 2020 – Current

Software Engineering Project Leader

Purdue Research

Full Stack Developer and project lead on the development and upkeep of a Web-Based Road Visualization Tool for the Indiana Department of Transportation. Currently being used to map road quality and predict future road repairs; providing ongoing technical support. Use of the Scrum Methodology for weekly deliverables. Built on the google maps API and ARCGIS API.

Aug, 2020 – Current

Software Developer

Purdue Research

Full Stack Developer on the development of CRAQ: a crack detection software used to detect structural flaws in nuclear reactors, windmills, and other environments in which it would be too dangerous for a human to traverse. The system uses Computer Vision and Machine Learning to detect the cracks. Additionally, a UI allows operators to view the footage, confirm cracks, and/or highlight new ones. Our startup's product has gained interest from major companies including Westinghouse.

Projects

Malloc

Fully functioning dynamic memory allocator built in C and C++. Integrates and functions identical to the c malloc library.

Linux Shell

Fully functioning Linux Command Shell built in Yacc, Lex, C and C++. Can execute any command identical to that of the default Linux shell as well as additional advanced features.

Social Media Site

A combination of functionalities from Facebook and Reddit, developed for Android. Users can follow specific topics /other accounts, post to their own wall or a friend's wall, direct message and block other accounts. Front-end built-in Android Studio using Java and Kotlin. Back-end built using SQL and PHP.

Dynamic Data Race Detection Testing Scheduler

Built in C using LD_PRELOAD as a dynamic hook library to intercept thread calls and rerun them using either the lockset or happens before algorithms. Based on the 1997 UC Berkeley Eraser Paper.

Xinu Operating System

Built with C and x86 assembly. Major components include: Scheduling, Interrupts, Semaphores, Synchronous/Asynchronous IPC, Deadlock Detection, and Paging.

Senior Design Project

Built with Swift and Xcode, our team of 4 developed UniMart a safer alternative to traditional marketplace services for college students. Our app is superior to other products like Craigslist and Facebook Market Place due to a priority on safety and a better UI.

Technical Skills

- C/C++/C#
- Java
- Python
- JavaScript
- HTML/CSS
- PHP
- SQL
- Bash
- Assembly
- Windows 10/ 8/ 7
- Linux
- MacOS
- Scrum/Agile

Soft Skills

- Leadership
- Teamwork
- Communication
- Confidence
- Flexibility
- Problem Solving
- Self-Management

Achievements

Eagle Scout 2016

Black Belt 2014

Academic Performance Scholarship 2016-2021

Dean's List 2017