# ANDREW L SMITH

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Online Portfolio: alsmith.net


## SKILLS

*In order of familiarity*

- **Working Knowledge (Extremely Comfortable)**
  - Languages: C#, C, C++, Java (+Android), Python, SQL, JavaScript, CG, GLSL, HTML/CSS, GML
  - Tools: Windows, Git, Unity, Emacs, Visual Studio, OpenGL, Blender, XNA/MonoGame, Game Maker

- **Basic Knowledge (Some Experience)**
  - Languages: Assembly (x86, MIPS, ARM), TypeScript, Windows Batch Scripting, VHDL
  - Tools: Linux, MSVC, Subversion, Unreal Engine

## EDUCATION

***Georgia Institute of Technology, Atlanta, GA*** 8/2013 – 12/2016

- B.S. Computer Science
  - Specializations in Devices and Information/Internetworks
- Current GPA: **3.90**

## WORK EXPERIENCE

**Software Engineer Intern, Microsoft, Redmond, WA** 1/2017 – present

- Currently working on the Resource Scheduling Optimization (RSO) solution for Microsoft Dynamics 365. RSO aims to automatically schedule resources (workers) to work orders in the most efficient way possible, considering a variety of customizable constraints and objectives. Collaborated with Microsoft Research to rewrite the entire optimizer from scratch using a new, experimental approach. Responsible for continuing and maintaining the UI improvements that I implemented as an intern (see below) and for ensuring that our data-privacy practices are GDPR-compliant. Working primarily in C# and JavaScript.

**Software Engineer Intern, Microsoft, Redmond, WA** 5/2016 – 8/2016

- Implemented various front-end improvements to a page in the Microsoft Dynamics 365 web application. Worked extensively with JavaScript and the Bing Maps API. Regularly collaborated with other Microsoft employees working on the opposite coast as well as in different countries.

**IT Intern, The Home Depot, Atlanta, GA** 5/2015 – 4/2016

- Developed several prototypes with experimental hardware and software to determine their feasibility in various use cases. Technologies worked with include virtual reality, indoor positioning systems, and self-flying quadcopters (a.k.a. drones). Worked primarily in Java.

## PERSONAL & SCHOOL PROJECTS

**Game Prototypes (C++, C#, Unity, MonoGame, GML) – Personal Project**

- Several small game engines and game prototypes that I have written for fun and enlightenment. These include 2D platformers in GML and MonoGame, a custom 3D engine using C++ and OpenGL, and a 3D RTS / turn-based hybrid strategy game in Unity.

**Tiger to MIPS Compiler (Java) – School Project**

- A compiler that converts programs written in a simple language, dubbed “Tiger”, into executable MIPS assembly. Implemented with no code generation tools. Implementation consisted of a scanner, parser, type-checker, IR generator, register allocator, and assembly emitter.

**Live MLB Scoreboard (Python + Raspberry Pi) – Personal Project**

- Program that asynchronously fetches data about the score (or start time) of a given MLB team’s game, their division standings, as well as the local weather. Runs 24/7 on my Raspberry Pi and displays the data visually on a (previously) unused monitor.