

James McKay

Extroverted father, relentless tinkerer, and an owner of one too many hobbies.

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Experience

Relevant Skills

Intel Corporation

Software Application Engineer

May 2018 to Present

- + High touch 3rd party client optimizations and performance analysis (Microsoft, Amazon, Autodesk, SideFX)
- + Developed and managed internal projects that improved productivity and consistency in the platform performance collection and analysis.
- + Worked on systems from RTL and FPGA projects through distributed software platforms.
- + Managed/owned [Power Gadget](#) and designed a complete overhaul of the software.
- + Identified issues in pre-production hardware
- + Developed value prop analysis on both unreleased internal projects and [Optane Memory](#)



- + C++, C#, Python, VHDL
- + Microarchitecture Analysis
- + Tools Development
- + Autodesk Inventor/ Fusion 360, SideFX Houdini
- + Performance analysis tools incl. VTune, WPA/WPR/xperf, SEP/EMON, TypePerf

Coding With Kids

Instructor

Dec 2017 to May 2018

- + Educated the next generation of Engineers on coding concepts
- + Forced OO into a platform with no OO
- + Created an advanced lunar lander software suite with simplified controls [entirely in Scratch](#)



- + Python, Scratch
- + Patience
- + Boxless thinking
- + Concept distillation

Hyperloop Transportation Technologies

HTT Engineering Specialist

Feb 2016 to Jan 2018

- + Worked with an international team
- + Delivered a custom human resources management tool
- + Trusted to validate security controls and infrastructure



- + Web technologies
 - + Open Source
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Experience

Relevant Skills

Digital Domain/ IM360

FPGA Design Engineer

Aug 2016 to May 2017

- + Built blocks for integration into real time 360° motion video cameras
- + Restructured test environment and procedure to reduce design, implementation, and execution time for test benches in simulation.
- + Utilized co-simulation platform to improve testbench production time by leveraging software experience



- + VHDL, Xilinx
- + Image Processing
- + Real Time

US Army

Intelligence Analyst and Satellite Technician

Apr 2008 to Mar 2011

- + Focused on socio-political, international, and military dynamic of NE Asia at a strategic leadership decision level
- + Full-Motion Video distribution through three air-gapped networks
- + Received training on JMICS system from General Dynamics
- + Maintainer/Operator working outside of primary military MOS
- + Maintained, authorized, and distributed usage of over 70 SATCOM circuits from 256kbps to 4096kbps
- + Received additional training for the JMICS system by ManTech



- + Trojan Spirit v3
- + JMICS, and GBS SATCOM
- + NOC Authority
- + Cable running
- + Customer Engagement
- + SATCOM Terminals

Community



Challenge Referee

Oregon Robotics Tournament & Outreach Program (ORTOP)
2018



Teacher

Women's Empowerment
2019



Foster Mentor

AgingUp
2020 - Present

Education



BAS Multidisciplinary Studies

Rochester Institute of Technology
2009 - 2016

Personal Projects

Personal Projects

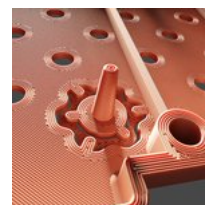
3D Printable Telescope (current project) Designed 8in f/6 3D printable telescope
 Assembled for under \$500, at a \$2500-\$3000 quality
 Designed in Autodesk Inventor

FPGA-based RFID block cipher Key-based permutation layer Experiment
 Uses PRESENT as lightweight cipher
 SPN Designed for personal Altera FPGA dev board

Short-term rapid prototype SW projects Quick and dirty hacks to handle day to day problems
 Python experiments, all on GitHub
<https://github.com/teejaytiger?tab=repositories>

Design Work

Competition [Won a community design contest hosted by Framework](#)
 Submitted an original compliant mechanism
-Framework Final image created using a combination of the following tools:
Design Challenge + Blender
 + Autodesk Inventor
 + Prusa Slicer



Personal [Designed and printed a flexible and stylish](#)
-Magnetic Pill Box [pill container for daily use](#)
 + Designed using Autodesk Inventor
 + Cura Slicer
 + Customized Ender 3 V2 Printer

