

Kurt Grossnickle

SOFTWARE ENGINEER

☎ (772) 332-9099 | ✉ kurtgrossnickle@gmail.com | 🌐 www.kurtgrossnickle.com | 📷 kgrossnickle | 📺 kurt-grossnickle

Education

Georgia Institute of Technology MS in Computer Science - Machine Learning Specialty - **3.5 GPA** (Part-Time) Grad. 2019

Notable Subjects: Machine Learning - Artificial Intelligence - Reinforcement Learning - Robotics- Computer Vision

University of Florida – Bachelor of Science in Computer Science

Grad. May 2018

Work Experience

Magic Leap

Fort Lauderdale, FL

SOFTWARE ENGINEER IN AR CLOUD

March 2020 – Present

- Designed & Wrote highly concurrent, high throughput cloud AR systems in Elixir / Erlang & Python for CV / ML systems
- Created Python cloud object recognition pipeline with fault-tolerant worker architecture, reducing complexity, crashes, and cloud costs
- Reduced time to merge 3D objects from multiple inputs into one map by 80% with efficient cloud caching and predictive algorithms
- Enhanced cloud pipelines for large compute-bound 3D AR processes (Tensorflow / Pytorch) to interact for multi-user experiences
- Architected & Wrote cloud RPC APIs in Go / Golang & Rust to connect consumer streaming data and CV/ML code

Motorola Solutions

Fort Lauderdale, FL

SOFTWARE ENGINEER II IN ADVANCED TECHNOLOGY RESEARCH

May 2019 – March 2020

- Author on 3 pending US Patents in the fields of Computer Vision, NLP, & Machine Learning & implemented each to product
- Created novel human "intent" tracking algorithm with 2d and 3d computer vision mapping for security and access control
- Designed distributed python & C++ computer vision pipeline for high-throughput, real-time machine learning models of 4k video using FFMPEG, OpenCV & GPU/CUDA enabled Nvidia docker
- Communicated business value with Data Analytics & Visualization of ML model performances using Python, SQL, Pandas, Excel & Matplotlib
- Utilized Tensorflow & Pytorch for Natural Language Processing of radio audio input and search video feeds for police/security suspects
- Leveraged Knowledge in Git, Docker, Python, Tensorflow/TensorRT to implement, test and visualize machine learning models in the Cloud & AWS and wrote C/C++ to port these model pipelines onto Jetson Nano and other small ARM architecture devices

SOFTWARE ENGINEER IN CLOUD PERFORMANCE & DEVOPS

June 2018 – May 2019

- Collaborated with UX team to implement custom Android keyboard which led to 50% faster typing of Police code words
- Implemented AI code reviewer with Live Data Analytics & Visualizations for the C++ & Java code base which decreased new code complexity by 30% and PR errors by 50% using SonarCube Code analysis with Jenkins and a Python Pipeline and Node.js graph visualizations
- Built an automated testing framework using Java & C++ for DSP code using Jenkins for nightly runs which reduced the time to find a DSP integration error by 2 weeks

ANDROID AND EMBEDDED SOFTWARE INTERN (2 SUMMERS)

May-Sep 2016, May-Sep 2017

Research & Select Projects

Open-Source Xbox Ethereum GPU Miner (Sole Developer)

Sept. 2021

- <https://github.com/kgrossnickle/eth-box>
- The only GPU Xbox miner capable of reaching 3-8 MH/s by using DirectX12 and HLSL Shader GPU code
- Created a multithreaded C++ application to interface with HLSL Shader code to utilize Xbox GPU in performing the ETHASH algorithm to mine Ethereum Coin

Side Project: TridentOutreach.com (Sole Developer)

March 2020

- Built a Node JS webapp & Electron desktop app in Javascript that automates actions for LinkedIn, email & other online platforms
- Designed all Front End Interfaces in HTML + CSS and PUG / JADE Template system
- Built & Architected the Backend system that receives > 10,000 queries from > 100 Users daily in MongoDB, Heroku & AWS

University of Florida Research

Gainesville, Florida

MEMBER OF SMART HOME SIMULATION TEAM

December 2015 – May 2016

- Wrote the GUI, UI and time system in C# in the Unity 3D engine to simulate the smart home owned by UF
- Our 4 person team's simulation platform decreased engineering testing time for physical devices by 40%

About Me / Skills

Languages & Web	Python, Elixir, HTML/CSS, C++, , Node.js / Javascript, Java, C, C#,
Cloud & DevOps	AWS, Docker, Unix, Linux, Kubernetes, CI/CD, Vagrant, Azure, Jenkins, HTML/CSS
Frameworks	Tensorflow, PyTorch, Numpy, SciPy, Pandas, OpenCV, Android Studio, TensorRT, Angular
Profession Skills	Git, Jira, Gerrit, Agile