Cole A. McGinnis

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Education

Georgia Institute of Technology GA | August 2021– December 2024
- Bachelor of Science in Computer Engineering, GPA: 3.8
- **Awards:** CirrusLabs Break the Site Challenge 3rd Place (Hack GT 9), 4x Dean's List Award Recipient
- **Professional Organizations:** GT Motorsports, IEEE (Institute of Electrical Engineers) Chapter Member
- Relevant Coursework: Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Compilers, Codesign of a Processor, Linear Algebra, Discrete Math, Statistics, Java, Python, MATLAB, Hardware/Software Systems (C language), Computer Architecture, Digital System Design, Signal Processing, Digital Design Lab, Circuit Analysis

Experience

Cisco | Atlanta, GA | May 2023 – August 2023
Software Engineering Intern
- Developed full routing device configuration automation leveraging Python, APIs, and Jinja templates, which reduced full routing configuration time from 4 hours to under 5 minutes.
- Standardized 1300 device interface descriptions utilizing fuzzy data scraping, pandas, and ssh commands.
- Created a dynamic script in Python to periodically scrape and synchronize interface descriptions from three distinct data sources, consistently updating a centralized database.
- Cisco Technical Excellence Award – Delivering value and innovation.

Verizon | Alpharetta, GA | June 2022 – August 2022
Network Engineering Intern
- Automated a comparison between two databases with over 3 million data points, saving 250 hours/week of manual labor.
- Automated the primary project using Python and SQL and uploaded a live comparison output to a Tableau dashboard allowing all engineers to easily access the data and make necessary changes.
- Analyzed dB predictions and created 5G radio frequency design sheets for 2 cell towers in Georgia.

Projects

Georgia Tech Motorsports | Atlanta, GA | August 2021 – Present
Electrical Leader
- Leading a team of 7 electrical and computer engineers to design and manufacture an electrical system for a formula motorsports car.
- Led our team to reach 7th out of 120 teams worldwide, marking our team's best placement since 2004.
- Designed (SOLIDWORKS Electrical) and constructed the electrical wiring harness for our 2023 & 2024 FSAE car. The harness connects 30+ sensors to the ECU and is robust and reliable.

Stock Square – Fully Autonomous YT Channel | Atlanta, GA | Spring 2023
Software Developer
- Auto YouTube shorts in python utilizing GPT-4 scripting, web-scraping, MoviePy video editing, and Whisper API subtitles.
- Script automatically uploads 2 daily market update videos with 20,000+ total views. Channel: **youtube.com/@Stock_square**

AutoFed (AI) | Atlanta, GA | Spring 2023
Website/Head Developer
- Developed a TensorFlow AI model (Python) that predicts federal reserve interest rates using 9 data inputs.
- Created a Next.js website with a Firebase backend to display predictions from the model and a recommended speech to announce the numbers from a GPT-3.5 API. Site: **https://autofed.vercel.app**

WhichIsMoreExpensive.com | Suwanee, GA | Summer 2021
Website/Head Developer
- Designed, coded, tested, and published an interactive game website utilizing HTML, CSS, JavaScript, SQL, and PHP.
- The website includes a live leaderboard, backend data storage, and modern CSS design elements.

Skills

Programming: Python (Advanced), C, C++, Java, JavaScript, HTML, CSS, SQL, PHP, FPGA, and Assembly (RISC-V & MIPS)
Software: Tableau, GPT & Whisper APIs (OpenAI), Next.js, React, MATLAB, Pandas, TensorFlow, ArchiCAD (1st CAD Architecture TSA State), Video Editing (Moviepy & Davinci Resolve)
Hardware: FPGA, Verilog, VHDL, HDL Oscilloscope, Engine Control Unit, Power Distribution Module, Dashboard Display, CAN Bus