Jonathan Koch

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EDUCATION

Bachelor of Science Computer Science, Concentration in Robotics and Automation — **Cumulative GPA:** 3.6/4.0
University of South Florida College of Engineering, Tampa, FL — *Fall 2020 - Spring 2024*

EXPERIENCE

Software Engineering Co/Op
May 2022 - Present

CAE USA — ***Tampa FL***

- Development of lab environments of computer system networks for simulation and hardware testing.
- Engineer and discover solutions to hardware incompatibilities. Automation of procedural computer network setup and maintenance.
- Collaboration on source repositories and deployment of computer tools and programs

Undergraduate Researcher
Fall 2021 – Present

Robot Perception and Action Lab, *University of South Florida* — **Tampa FL**

- Research in robotic object manipulation through reinforcement learning
- Collect and analyze data in the real world and simulation for training of reinforcement learning models
- Utilize control theory principles to implement solutions in simulated environments that transfer to real-world systems.

Senior Coding Coach
Fall 2021 - Present

theCoderSchool — **Tampa FL**

- Instilling an interest and mentoring the next generation of software developers
- Formulate hobby projects based on student's interests, aid in design development, educate on the utilization of necessary computer logic
- finalize a working design through knowledge and application of learned computer science concepts and ideas.

PROJECTS

IEEE VEX USF Bull Bot
August 2021 - Present

https://github.com/Johnnykoch02/V5 — https://www.instagram.com/reel/CdJ00oyvc0V/ *(Video of a Competitive Match)*

- Develop software designed to compete in VEX 2022/2023 head-to-head competition, and VEX skills competition.
- Design a system to interpret sensor data to generate vector space understanding
- Implementation of control theory principles for performing complex autonomous actions. Utilization of computer vision for error correction in autonomous actions.

Astaria
November 2021 - January 2022

https://github.com/Johnnykoch02/Astaria — https://www.screencast.com/t/8Lff4Pf2NCgb (*Video* Description of the Project)

- A passion project, designed to feel like Pokémon and Minecraft.
- Implement various software engineering techniques such as signaling, data storage, and state-machine principles, but also just designed to look and feel enticing.

COMPETENCIES

***Languages**: Python, C & C++, C#, Java, Lua, JavaScript, Perl*
***Worked With:** GitHub API, Stable-Baselines3, OpenAI, PyTorch, Django, React, REST, Linux, Cisco Networking, 2D & 3D Physics Engines*