

# Devon Gardner

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## EDUCATION

**Bachelor of Arts in Computer Science at New College of Florida – 4.0 GPA | Aug 2020 – May 2023**

Honors Thesis – Exploring Robot Kinematics: an Engineering Approach

## COURSES & SKILLS

**Courses:** Software Engineering, Object Oriented Design, Machine Learning, Computer Architecture, Embedded Systems

**Programming Languages:** C++, C, Python, Java, Rust, Bash, TypeScript, JavaScript, C#

**Software Technologies:** Git, Agile/SCRUM, Docker, Linux OS, Nix, Neovim, GDB, Arduino, ReactJS, ROS

## RELEVANT WORK EXPERIENCE

**Neovim – Open Source Contributor | 09/10/24 – Present**

- Identifies and investigates high impact C code defects using Coverity Scan platform
- Collaborates with other maintainers of the project through Github pull requests ensuring quality of fixes
- Creates clean and concise git history through a git rebase workflow

**New College of Florida – Teaching Assistant | 08/23/22 – 12/06/22**

- Taught students computer architecture concepts in small group format over 30+ office hour sessions; graded 100+ project submissions; handled integrity violations; improved course teaching materials; oversaw workshops

**UofSC Center for Computational Robotics – Research Assistant | 05/29/21 – 08/13/21**

- Produced training dataset of underwater cave structures for robotic cave diving computer vision project
- Wrote Python script to ensure dataset quality by automating correction and culling of class labels
- Trained proof of concept YOLOv5 object detection model to classify structures with 82% mean average precision

## RELEVANT PROJECT EXPERIENCE

**Rusterizer | 02/01/23 – 04/20/23**

- Built computer graphics rasterization library to render user-defined 3D scenes using Rust
- Generated 2D images from object models using linear transformations and interpolation

**WidowX 200 Robot Arm Control Architecture | 08/23/22 – 05/12/23**

- Applied linear regression to produce Gaussian mixture model-based motion primitives
- Evaluated performance of 5 motion primitives using root mean square error
- Utilized forward and inverse kinematics to convert between 3D coordinates and joint angles
- Communicated with robot arm through custom C++ DynamixelSDK wrapper and ROS2 framework

**From Nand to Tetris | 06/18/22 – 07/18/22**

- Built 16-bit Hack CPU and RAM from ground up using only NAND logic gates
- Designed and created logic gates and functional 16-bit Arithmetic Logic Unit in Minecraft
- Implemented assembler capable of supporting symbols and labels to generate machine language

**Red Tide Dashboard | 04/22/22 – 05/20/22**

- Architected and implemented full-stack web application in Agile/Scrum team of three to produce ReactJS dashboard, aggregating 50,000+ data related to red tide
- Leveraged Twitter, YouTube, and Spotify APIs; built Express and MongoDB backend; deployed app on AWS
- Conducted sentiment analysis on Twitter data using nltk and scikit-learn libraries

## OTHER EXPERIENCE

**Jaguar Sarasota – Service Valet | 08/20/23 – Present**

**New College of Florida – Computer Science Tutor | 02/23/23 – Present**

- Troubleshoots student projects and provides strategic direction; has achieved 100% student satisfaction rating