Andrew C. Huie

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Software engineer with five years of experience developing complex systems and applications. Strong problem solver accustomed to working in Python and the Linux commandline on containerized programs. Interested in developing reliable, maintainable, and intuitive software.

EXPERIENCE

Mujin, Inc. — Autonomous industrial robotics solutions   Jun 2021–Present
Software Engineer in Test Development Division   *Koto, Tokyo, JP*

- Developed testing simulator for continuous integration (CI) pipeline
  - Every part of the system was simulated in Python & OpenRAVE and made configurable/overrideable—including UI interactions, IO signal timing, 3D cameras, collision detection, warehouse control systems (WCS)/programmable logic controllers (PLC), and more
  - Wrote and maintained per-project test suites of feature tests, corner cases, and injected fault scenarios
- Developed system monitoring bot written in Go, improving error response time
- Worked on system diagnostics and inspection webapp in React, visualizing system behavior and aiding debugging
- Set up and calibrated physical 6-axis robot test cells and successful expo demos
- Used and managed JHBuild build system for reproducible, versioned system builds
- Managed aforementioned containerized web services with Kubernetes

Ascent Robotics, Inc. — Autonomous robotics technology development   Sep 2017–May 2021
Senior Software Engineer   *Shibuya, Tokyo, JP*

- Developed autonomous vehicle simulation suite for training/evaluating decision-making algorithms
  - Lanelet2/OpenDrive map generator for in-house road network format, designed to facilitate searching for difficult scenarios in Rust
  - Emulation of perception stack output for agent training in sim environment in Python
  - Lightweight collision sim for MCTS playout/rollout step in Rust
  - High fidelity driving sim using Unreal Engine 4 with output similar to car platform
- Conducted screening interviews for hiring candidates
- Created data generation pipeline for object recognition in publication:
  Object Detection using Domain Randomization and Generative Adversarial Refinement of Synthetic Images *ArXiv* **2018**
      Fernando Camaro Nogues, **Andrew Huie**, Sakyasingha Dasgupta

TECHNICAL PROFICIENCY

Computer Languages

Proficient	**Python**
Familiar	Bash, Rust, Go, JavaScript
Development Tools	Pytest, GNU/Linux (Arch Linux & Debian), Git, Docker, Nix Package Manager

EDUCATION

Rice University   *Houston, TX, USA*
Bachelor of Arts in Computer Science, 2016

Relevant Coursework: Autamata, Formal Languages, and Computability; Computer Game Design; Tools and Models in Data Science; Computer Security; Computer Networks

PROJECTS

scrambler   github.com:achuie/scrambler

Scramble generator for the Rubik's Cube. Random move generator as a baseline, with a more sophisticated IDA* solver in the works.

Cutthroat   github.com:achuie/cutthroat

Networked multiplayer, top-down, ASCII-art shooter video game written in Java in which players mine for ammo and weapon upgrades, and win by reaching a number of kills.