

# ANDREW C. HUIE

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*Software engineer with eight years of experience developing complex systems and applications.  
Strong problem solver accustomed to working in Linux environments on containerized programs.  
Focused on developing reliable, maintainable, and intuitive software.*

## EXPERIENCE

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- Software Engineer II** Jun 2021–Present  
*Mujin, Inc.* — Autonomous industrial robotics solutions *Koto, Tokyo, JP*
- Developed controller simulator and GitLab-based CI pipeline management system, the foundation for company-wide test driven development
    - > Simulated QML UI interactions to automate validation for onsite operations
    - > Emulated warehouse control systems (WCS/PLC) in Python for integration testing critical features
    - > Designed and implemented state machines for testing complex gripper interactions and behaviors
    - > Wrote and maintained per-project test suites of feature tests, corner cases, and injected fault scenarios to provide guarantees for project deliverables
  - Built and maintained developer tooling to enable designing and supporting many account projects simultaneously, quadrupling revenue opportunities
    - > Developed live controller monitoring bot in Go, reducing response time from days to minutes
    - > Worked on system inspection webapp using ReactJS & Python, accelerating pinpoint debugging
    - > Orchestrated containerized web services with Kubernetes to scale with developer demand
    - > Managed JHBuild configurations for reproducible, versioned system builds and development environments
  - Set up and calibrated physical 6-axis robot test cells and successful expo demos

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

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**Computer Languages** Python, Rust, Go, Bash, C++, Java, Nix, JavaScript  
**Development Tools** Pytest, GNU/Linux (Arch & Debian), Git, GitLab, Docker, Kubernetes, Nixpkgs

## EDUCATION

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

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

## PROJECTS

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**scrambler** [github.com:achuie/scrambler](https://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. Packaged with Nix `$ nix run github:achuie/scrambler -- rand`

**Cutthroat** [github.com:achuie/cutthroat](https://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.