

RICHARD HOFFMANN

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EDUCATION

California Institute of Technology

06/2027

B.S. Applied Computational Mathematics, Minor Computer Science
NCAA DIII Cross Country & Track Team

Taken Courses Programming Methods, Data Structures, Software Design, Intro to Matlab, Analytical Linear Alg., Comp. Physics
Planned Classical Analysis, Linear Algebra w/ Matlab, Discrete Math, Learning Systems, Algorithms, Intro to Robotics

EXPERIENCE

Commerzbank AG

07/2024 - Present

Internal Audit Intern - Cybersecurity

New York, NY

- Refactoring Python codebase to optimize audit-planning data and implement evolutionary algorithm.
- Cybersecurity internal audit team.

Magimine, LLC

06/2024 - Present

Research Intern

Simi Valley, CA

- Researching object pose estimation for robotic manipulation in Python.
- Working towards submission to International Conference on Robotics & Automation 2025.

Caltech - Professor Adam Wierman Group

03/2024 - Present

Undergraduate Researcher

Pasadena, CA

- Researching the bandit problem, applying adversarial attack knowledge from stochastic bandits to the click model.
- Developing algorithms from the attacker's perspective & RL policies to enhance robustness of recommender systems.
- Working towards submission to The Web Conference 2024 & Recommender Systems Conference 2024

Caltech CAOS - Crater Team

10/2023 - 02/2024

Crater Software Sub-Team

Pasadena, CA

- Member of software sub-team. Handled data manipulation, motor control, and autonomy for other sub-teams.

AUVSI - Association of Uncrewed Vehicle Systems International

08/2023 - 09/2023

Research Analyst Intern

Remote

- Conducted comprehensive analysis on unmanned systems companies, providing insights that informed industry trends.
- Imported & validated technical data into the AUVSI Database, enhancing reliability and usability for stakeholders.

University of Colorado, Boulder - Autonomous Robotics & Perception Group

06/2022 - 08/2023

Student Researcher

Boulder, CO

- Designed & implemented wiring for model car, enabling precise control of driving & efficient data recording w/ ROS.
- Developed Python scripts to interpolate & convert driving data, significantly improving data accuracy.
- Designed, trained, & tested neural network achieving 54% lower error value compared to Kinematic Bicycle Model.

TECHNICAL STRENGTHS

Computer Languages

Python, C, Java, C++, MySQL

Tools

Git, Jupyter, Linux, Matlab, Onshape, PyTorch, ROS

Languages

English, Mandarin, German, Taiwanese