

# ADAM YOUNG

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## Education

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University of California, Los Angeles

*September 2020*

*B.S. Mathematics of Computation*

- GPA: 3.4
- Honors: Deans List (Winter 18)
- Relevant Coursework:
  - Intro to Computer Organization
  - Algorithms and Complexity
  - Operating System Principles
  - Linear Models
  - Machine Learning
  - Mathematical Statistics

## Technical Skills

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Machine Learning Models

regression, decision tree, SVM, k-means, PCA, CNN, DQN, LSTM

Programming Languages

Python, C, C++, MATLAB, R, JavaScript, Bash, SQL

Frameworks and Tools

Pytorch, scikit-learn, gym, Docker, CUDA, cuDNN, OpenCV, Linux

## Relevant Experience

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Center for Vision, Cognition, Learning, and Autonomy, UCLA

*July 2019 - Present*

*Research Assistant*

- Mentored by PhD candidate, Xu Xie, reviewed literature in reinforcement learning
  - Research focused on prediction using planning-based methods in an autonomous driving scenario
- Reviewed applied reinforcement learning literature from ICRA and IROS robotics conferences
- Outlined paper replacing existing LSTM methods with attention mechanism (transformer)

WiZR

*Summer 2018*

*Software Engineering Intern*

- Optimized real-time object detection procedure used in automated video surveillance framework
- Implemented a modified version of YOLOv3 in C using the darknet framework
  - Doubled evaluation performance enabling each GPU to run twice as many cameras for real-time surveillance
- Utilized client reported false positive/negative cases to develop a custom; used transfer learning to improve accuracy
- Used Docker to build training and production containers with isolated dependencies

UCLA Physics

*December 2018 – August 2019*

*Research Assistant*

- Worked 1-on-1 with PI investigating the behavior of electrons on Graphene lattice
- Applied bilateral filters to transmission electron microscope samples improving visualization of electron flow

## Projects

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Center for Vision, Cognition, Learning, and Autonomy, UCLA

*November 2019*

*Research Project*

- Solved challenging Open AI Gym environments by implementing and fine-tuning CNN based deep reinforcement learning models (DQN) in Pytorch
- Built efficient data pipeline to preprocess image and video input data
- Trained agents in OpenAI gym environments solving many tasks; accelerated network training using GPU

Department of Computer Science, UCLA

*July 2019*

*Senior Design Project, Systems Engineer*

- Designed, built, and debugged an embedded application to interact with central control server
- Implemented secure channel for encrypted communication featuring the aid of server-side logs
- Enabled IOT device to communicate temperature data with University server in real time