

CHARLES SCHAFF

Ph.D. Student in Reinforcement Learning and Robotics
Graduating in August, 2022

@ cbschaff@ttic.edu 6045 S Kenwood Ave, Chicago IL, 60637 Chicago, IL
home.ttic.edu/~cbschaff/ @chip_schaff cbschaff



WORK EXPERIENCE

Software Engineering Intern

Google Inc.

07/2019-09/2019 Sunnyvale, CA

I worked with several teams across Google and DeepMind to explore how Imitation Learning and Reinforcement Learning could be used to improve rate control in libvpx, Google's open source video codec library.

Software Engineering Intern

Google Inc.

05/2015-08/2015 Mountain View, CA

I worked with the Google Maps team to develop Machine Learning techniques for Google's semantic location ranking system. Specifically, I used decision trees to improve the capability of their feature engineering pipeline.

Software Developer and Intern

Epic Systems

05/2014-08/2014 Verona, WI

I worked with Epic's transplant team, Pheonix, to develop algorithms for efficient kidney allocation in paired kidney exchanges.

SELECTED PUBLICATIONS

Jointly Learning to Construct and Control Agents using Deep Reinforcement Learning

Charles Schaff, David Yunis, Ayan Chakrabarti, Matthew R. Walter

International Conference on Robotics and Automation (ICRA) 2019

Residual Policy Learning for Shared Autonomy

Charles Schaff and Matthew R. Walter

Robotics Science and Systems (RSS) 2020

Soft Robots Learn to Crawl: Jointly Optimizing Design and Control with Sim-to-Real Transfer

Charles Schaff, Audrey Sedal, and Matthew R. Walter

Robotics: Science and Systems (RSS) 2022

Jointly Optimizing Placement and Inference for Beacon-based Localization

Charles Schaff, David Yunis, Ayan Chakrabarti, Matthew R. Walter

International Conference on Intelligent Robots and Systems (IROS) 2017

Bayesian Optimization for Automated Model Selection

Gustavo Malkomes, Charles Schaff, Roman Garnett

Conference on Neural Information Processing Systems (NeurIPS) 2016

EDUCATION

Ph.D. Candidate in Computer Science

Toyota Technological Institute at Chicago

Sept 2016 - Aug 2022 (expected)

M.S. in Computer Science

Toyota Technological Institute at Chicago

Sept 2016 - Sept 2018

GPA: 3.94/4.0

B.S. in Computer Science and Math

Washington University in St Louis

Sept 2012 - May 2016

Summa Cum Laude, GPA: 3.95/4.0

TEACHING EXPERIENCE

TTIC 31170: Planning, Learning and Estimation for Robotics

Teaching Assistant - 2019

TTIC 31150: Mathematical Toolkit

Teaching Assistant - 2017

WUSTL 511A: Introduction to Artificial Intelligence

Teaching Assistant - 2015, 2014

WUSTL 517A: Machine Learning

Teaching Assistant - 2015

WUSTL 417T: Introduction to Machine Learning

Teaching Assistant - 2014

WUSTL 260: Introduction to Digital Logic and Computer Design

Teaching Assistant - 2013

SKILLS

Reinforcement Learning Deep Learning
Robotics Python PyTorch Tensorflow
ROS Finite Element Simulation