# Colin Kohler | Curriculum Vitae

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## Education

### Northeastern University

- **College of Computer and Information Science** — **Boston, MA**
  *Ph.D. candidate in Computer Science* — *September 2018–Present*
  - Advisor: Robert Platt (Helping Hands Lab)
- **College of Computer and Information Science** — **Boston, MA**
  *Bachelor of Science in Computer Science, Cum Laude* — *September 2011–May 2016*
  - Activities: Beta Gamma Epsilon Engineering and Science Fraternity | nuACM

## Professional Experience

- **Northeastern University** — **Boston, MA**
  *Research Assistant* — *September 2018–Present*
  - Researched model-based and model-free reinforcement learning algorithms for robotic manipulation.
  - Developed a robotic mobility scooter system augmented with a robotic arm to perform pick-and-place tasks semi-autonomously.
- **TRACLabs** — **Webster, TX**
  *Robotics Intern* — *October 2020–January 2021 | September 2021– December 2021*
  - Implemented and evaluated robotic regrasping strategies for assembly-line tasks.
  - Integrated and evaluated motion planning algorithms for use in complex industrial environments.
  - Optimized robotic manipulation planning algorithms.
- **A9** — **Palo Alto, CA**
  *Software Engineer* — *January 2015–June 2015*
  - Researched and implemented different CNN optimization techniques for the deep learning team.
  - Implemented and evaluated a quantization-based image segmentation algorithm for use in Amazon's computer vision pipeline.
  - Developed and tested Rigor, a framework for managing labeled data and for testing algorithms.
- **Smartleaf** — **Cambridge, MA**
  *Ruby on Rails Engineer* — *January 2014–June 2014*
  - Developed web features for a ruby on rails automated portfolio management system.

## Teaching and Mentoring Experience

- **Northeastern University** **Boston, MA**
  *Young Scholars Program* *July–August, 2017–2019*
  - Mentored a team of high school students performing hands-on research in robotics.
- **Northeastern University** **Boston, MA**
  *Reinforcement Learning TA* *September 2019–November 2019*
  - Responsible for creating and grading homework assignments.
  - Assisted students with brainstorming and implementation of their end of semester projects.

## Publications

D. Wang, C. Kohler, and R. Platt, "Policy learning in se (3) action spaces," *arXiv preprint arXiv:2010.02798*, 2020.

D. Wang, C. Kohler, A. t. Pas, A. Wilkinson, M. Liu, H. Yanco, and R. Platt, "Towards assistive robotic pick and place in open world environments," *The International Symposium on Robotics Research*, 2019.

R. Platt, C. Kohler, and M. Gualtieri, "Deictic image mapping: An abstraction for learning pose invariant manipulation policies," in *Proceedings of the AAAI Conference on Artificial Intelligence*, vol. 33, pp. 8042–8049, 2019.

## Technical and Personal Skills

- **Programming Languages:** Python | C++ | Matlab | Scheme | R | Ruby | Objective C | Java
- **Software:** PyTorcy | PyBullet | ROS | Caffe | TensorFlow | OpenRAVE | OpenCV | Git
- **Robots:** UR5 | UR10 | Baxter | Kuka | NASA Valkyrie

## Interests and Extra-Curricular Activities

- **Personal Interests:** Soccer | Surfing | Skiing | History | Board Games | Cooking
- **Academic Interests:** Robotics | Deep Learning | Computer Vision | Artificial Intelligence

**References Available on Request**