

## EDUCATION

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<b>Brown University</b> Ph.D. in Computer Science, GPA: 4.00/4.00 Advisors: George Konidaris and Stefanie Tellex	Providence, RI 2017–Present
<b>Northeastern University</b> M.S. in Computer Science, GPA: 3.96/4.00, Advisor: Robert Platt	Boston, MA 2015–2017
<b>Rensselaer Polytechnic Institute</b> B.S. in Electrical Engineering, GPA: 3.98/4.00	Troy, NY 2012–2015

## PUBLICATIONS

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- [1] **M. Corsaro**, S. Tellex, and G. D. Konidaris, “Learning to detect multi-modal grasps for dexterous grasping in dense clutter”, in *Proceedings of the 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems*, Sep. 2021.
- [2] T. Nguyen, N. Gopalan, R. Patel, **M. Corsaro**, E. Pavlick, and S. Tellex, “Affordance-based robot object retrieval”, *Autonomous Robots*, Aug. 2021.
- [3] B. Tang, **M. Corsaro**, G. D. Konidaris, S. Nikolaidis, and S. Tellex, “Learning Collaborative Pushing and Grasping Policies in Dense Clutter”, in *Proceedings of the 2021 International Conference on Robotics and Automation*, May 2021.
- [4] T. Nguyen, N. Gopalan, R. Patel, **M. Corsaro**, E. Pavlick, and S. Tellex, “Robot Object Retrieval with Contextual Natural Language Queries”, in *Robotics: Science and Systems XVI*, Jul. 2020.

## RESEARCH EXPERIENCE

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<b>Brown University</b> Research Assistant @ George Konidaris’s Intelligent Robot Lab	Providence, RI 2017–Present
<ul style="list-style-type: none"><li>– Grasp Detection for Intelligent Manipulation</li><li>– Ongoing dissertation research on robot grasping and abstraction for intelligent manipulation.</li><li>– Completed course projects involving <i>Action-Conditional Video Prediction using Deep Networks in Atari Games</i> and integrating deep learning into <i>Skill Discovery in Continuous Reinforcement Learning Domains using Skill Chaining</i>.</li></ul>	
<b>Northeastern University</b> Research Assistant @ Robert Platt’s The Helping Hands Lab	Boston, MA 2015–2017
<ul style="list-style-type: none"><li>– Grasp Pose Detection in Dense Clutter with a UR5</li><li>– Ported the system described in <i>High Precision Grasp Pose Detection in Dense Clutter</i> to a UR5 robot and helped to improve the grasp success rate.</li></ul>	
<b>Harvard University</b> Summer Research Intern @ Robert Howe’s Harvard Biorobotics Lab	Cambridge, MA Summer 2014
<ul style="list-style-type: none"><li>– Grasp Point Recognition from Geometric Cues</li><li>– Integrated a computer vision algorithm to detect and execute grasps with a real robot.</li></ul>	

## WORK EXPERIENCE

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- Mitsubishi Electric Research Laboratories** Cambridge, MA  
Robot Research Science Intern Summer 2021
- Robotic manipulation research project that will be detailed in upcoming publication.
- Locus Robotics** Wilmington, MA  
Robot Software Engineering Intern Summer 2017
- Depth Estimation from 2D Images
  - Computer vision project to extract point clouds from monocular camera feed on mobile robot.
- Locus Robotics** Wilmington, MA  
Robot Software Engineering Intern Summer 2016
- 3D Vision for Mobile Robots
  - Integrated 3D depth sensor with mobile robot platform, improved 3D data processing pipeline.
- Vecna Technologies** Cambridge, MA  
Robot Software Engineering Intern Summer 2015
- Navigation for Mobile Robots
  - Worked on mobile robot navigation stack to execute predictable motion paths.
- The Boeing Company** Troy, NY  
Rensselaer Multidisciplinary Capstone Design Project Spring 2015
- Robot Arms for Airplane Assembly
  - Led multidisciplinary group of students in designing and simulating robotic arms for automated airplane wing maintenance and assembly.
  - Held weekly conference calls with Boeing engineer, presented results to group of Boeing employees.

## AWARDS

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- Andries van Dam Graduate Fellowship 2017–2018
- RPI Wynatt James William Prize 2015
- Boeing Scholarship 2015
- RPI Medal 2012

## TEACHING

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- **Grad Teaching Assistant** at Brown University Spring 2018  
*Topics in Collaborative Robotics (CSCI 2951K)*
- **Teaching Assistant** at Northeastern University Spring 2017  
*Foundations of Artificial Intelligence (CS 5100)*
- **Head Teaching Assistant** at Northeastern University Fall 2016  
*Foundations of Artificial Intelligence (CS 5100)*

## ACADEMIC SERVICE

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- Journal Reviewing:
  - IEEE Robotics and Automation Letters 2021
- Conference Reviewing:
  - IEEE International Conference on Robotics and Automation 2021, 2022

## MENTORSHIP

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- Bingjie Tang, Brown University, M.S. 2020 2018–2020  
*Now Ph.D. Student at University of Southern California*  
Project: Learning Combined Planar Pushing and 6 DoF Grasping Policies
- Anthony Cruz, Brown University, Sc.B. 2018 2017–2018  
*Now Software Engineer at Google*
- Four high school students from the MET High School 2018–2019  
Mentored four students through Brown's CSCI 1951R: *Intro to Robotics* curriculum.

## SKILLS

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- **Programming:** C++, Python
- **Deep Learning:** TensorFlow
- **Robot Software:** ROS, PCL
- **Simulation:** Drake, MuJoCo
- **Some additional experience with:** PyTorch, PyBullet, MATLAB

## OUTREACH & SERVICE

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- Outreach Coordinator for the Intelligent Robot Lab and Humans to Robots Lab 2018–Present  
*Schedule lab tours and presentations for elementary, middle, and high school student groups, scout groups, visiting university officials, professional groups, alumni, and staff. Traveled to local schools and the Rhode Island Robot Block Party to teach the community about robotics.*
- Application Feedback Program for Underrepresented Applicants 2020  
*Assisted three PhD applicants from underrepresented groups by reviewing their résumés, statements of purpose, and other documents, providing advice, and helping them navigate the PhD application process.*
- Brown University Graduate Student Council 2018–2019  
*One of the computer science department's representatives to the grad student council.*
- Brown CS Department Info Khan 2021–Present  
*Responsible for maintaining the graduate student web structure and assisting students in establishing their web presence.*

## SELECTED COURSEWORK

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### **Brown University**

*CSCI 2470* Deep Learning

*CSCI 2951X* Reintegrating AI

*CSCI 2951F* Learning and  
Sequential Decision Making

### **Northeastern University**

*CS 5335* Robotic Science  
and Systems

*CS 6140* Machine Learning

*CS 5100* Foundations of  
Artificial Intelligence

*CS 7800* Advanced Algorithms

*CS 7600* Intensive Computer  
Systems

*CS 7400* Intensive Principles of  
Programming Languages

### **RPI**

*ESCE 4480* Robotics I

*ESCE 4510* Digital Control  
Systems

*CSCI 1200* Data Structures

*ECSE 4790* Microprocessor  
Systems

*MATH 4100* Linear Algebra