

EDUCATION

PhD in Computer Science , <i>Columbia University</i> Advisor: Prof. Peter Allen, Thesis: <i>Learning Mobile Manipulation</i> ARL Research Fellow	Sep 2017 — May 2022 Exp.
MPhil in Computer Science , <i>Columbia University</i> ,	Sep 2018 — Present
MS in Computer Science , <i>Columbia University</i> , 4.0 GPA CA Fellowship	Sep 2017 — May 2019 Sep 2016 — May 2017 Sep 2016 — Jan 2017
BS in Computer Science , <i>Columbia University</i> , 3.7 GPA	Sep 2012 — May 2016

SELECTED RESEARCH EXPERIENCE (ADDITIONAL EXPERIENCE LISTED ON MY WEBSITE)

MineRL Basalt Competition <i>Neurips 2021</i> <ul style="list-style-type: none">Developed an autonomous Minecraft agent using human demonstration data and won first place in overall performance and also most human-like agent in collaboration with ARL and UMBCContributed domain expertise in visual navigation and developed the state classifier using human-labeled dataWork published at AAAI-Make 2022 and presented at Neurips 2019	Jul 2021 — Dec 2021 <i>New York, NY</i>
Mobile Manipulation Leveraging Multiple View <i>Columbia Robotics Lab</i> <ul style="list-style-type: none">Developed a system for long-range mobile manipulation using a mobile robot without localization at runtimeCreated novel simulation based techniques for generating data using real-world scanned environmentsAdvanced previous navigation work by improving local navigation without localizing the agent and without the goal provided beforehand	Jan 2020 — Present <i>New York, NY</i>
Learning Your Way Without Map or Compass: Panoramic Target Driven Visual Navigation <i>Columbia Robotics Lab</i> <ul style="list-style-type: none">Created a system to navigate through real-world scanned environments using simulated images of trajectoriesDeveloped a novel panoramic target goal methodology for specifying goal locations without needing the goal position at runtimeWork published to IROS 2020 and presented at NERC 2019	Jan 2018 — Sep 2019 <i>New York, NY</i>

SELECTED PROFESSIONAL EXPERIENCE (ADDITIONAL EXPERIENCE LISTED ON MY WEBSITE)

Co-Founder / Odefi Inc. <i>Columbia IBM Blockchain Accelerator</i> <ul style="list-style-type: none">Created a startup company Odefi to deliver liquidity to the MakerDAO network by auto terminating expired contracts as part of the Columbia IBM Blockchain Accelerator in 2019Learned the lean launchpad startup process and pitched to several investors: https://www.youtube.com/watch?v=kGa5QHL28FE	Mar 2019 — Present <i>New York, NY</i>
Research Fellow <i>Army Research Lab</i> <ul style="list-style-type: none">Participating in drone, robotic navigation, robotic grasping, and simulation research for the Army Research LabDeveloping hardware acquisition and deployment strategies for research in ARL facilities	Sep 2018 — Present <i>Aberdeen, MD</i>
Engineering Intern <i>Goldman Sachs</i> <ul style="list-style-type: none">Worked in Margin Technology to prioritize calculations using a graph DBMS and provided an interface to adjust the prioritizationsDeveloped in Java and Angular.js to build both the database queries and the user experience	Jun 2016 — Aug 2016 <i>New York, NY</i>

SELECTED PUBLICATIONS (ADDITIONAL PUBLICATIONS LISTED ON MY WEBSITE)

- Watkins-Valls, D.**, Maia H., Varley J., Seshadri M., Sanabria J., Waytowich, N., & Allen, P. (2021). Mobile Manipulation Leveraging Multiple Views. Submitted to ICRA 2022
- Watkins-Valls, D.**, Xu, J., Waytowich, N., & Allen, P. (2020). Learning your way without map or compass: Panoramic target driven visual navigation. 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 2020
- Watkins-Valls, D.**, Varley, J. & Allen, P. Multi-Modal Geometric Learning for Grasping and Manipulation. 2019 IEEE International Conference on Robotics and Automation (ICRA). IEEE, 2019.

SKILLS

Languages	Python, C++, ROS, Tensorflow, PyTorch, CUDA, Javascript, Bash, \LaTeX , Markdown
Software	Gazebo, PyBullet, GraspIt!, MoveIt!, OpenCV, Blender, Windows, Ubuntu, JetBrains, Git
Quantitative Research	Robotics, Neural Networks, Grasping, Navigation, EMG
Communication	English, Spanish