

Education

- **Worcester Polytechnic Institute** Worcester, MA, USA
Assistant Professor, Robotics Engineering July. 2023 – Present
 - Teaching Courses: Robotic Motion Planning (RBE550)
 - Research Areas: Learning and Planning, Planning under Uncertainty, Task and Motion Planning
- **William Marsh Rice University** Houston, TX, USA
Ph.D. in Computer Science, Advisor: Dr. Lydia E. Kavraki Aug. 2017 – May 2023
 - Thesis: Retrieval-Based Learning for Efficient High-DoF Motion Planning
- **Aristotle University of Thessaloniki** Thessaloniki, Greece
Diploma in Electrical and Computer Engineering Sep.2011 – Apr.2017
 - Graduated with “Excellent,” **8.86/10** cumulative average (Top 2%)
 - Thesis: Structural Analysis of Handwritten Equations Using Probabilistic Context-Free Grammars

Research Experience

- **Kavraki Lab**, <http://kavrakilab.org/> Rice University, Houston
Graduate Student Aug. 2017 – Present
 - Authored research papers in Robotic Learning
 - Developed open-source software for education and research purposes
- **NVIDIA Seattle Robotics Lab**, https://nvidia_srl.gitlab.io/ NVIDIA, Seattle
Research Intern Sept. 2022 – Dec. 2022
 - Worked on robust Task and Motion Planning
- **Adacomp Lab**, <https://adacomp.comp.nus.edu.sg/> NUS, Singapore
Research Intern Jul. 2022 – Aug. 2022
 - Developed a POMDP formulation for planning with manipulators
- **TracLabs Robotics Group**, <https://traclabs.com/> TracLabs, Houston
Research Intern Jul. 2019 – Aug. 2019
 - Integrated a Motion Planning framework and experience-based planning in an industrial problem
- **Pandora Robotics Group**, <http://pandora.ee.auth.gr/> Aristotle University, Thessaloniki
Software Engineer and Tester Sep. 2013 – Feb. 2015
 - Worked on robot mapping and online diagnostic testers

Awards, Nominations and Fellowships

- **Future Faculty Fellowship from Rice University** Rice University, Houston
Awarded to Ph.D./Postdoctoral students applying to tenure-track positions Sept. 2022
- **ICRA 2021 Best Paper nomination in Cognitive Robotics (Top-4)** Rice University, Houston
Nominated to relevant papers in a competitive basis Jun. 2021
- **NSF Graduate Research Fellowship** Rice University, Houston
Awarded to outstanding graduate students in the US in STEM May. 2019
- **ICRA 2019 Travel Grant** Rice University, Houston
Awarded to attendees in a competitive basis Mar. 2019
- **Hellenic Professional Society of Texas Scholarship** Rice University, Houston
Awarded to students with Greek Origins for Academic Excellence Jan. 2018

Open Source Software

- **MotionBenchMaker** https://github.com/KavrakiLab/motion_bench_maker
Core Developer/Maintainer *January 2022 – present*
- **Pyre Library** <https://github.com/KavrakiLab/pyre>
Core Developer/Maintainer *April 2021 – present*
- **Robowflex Library** <https://github.com/KavrakiLab/robowflex>
Core Contributor *March 2019 – present*
- **The Open Motion Planning Library (OMPL)** <http://ompl.kavrakilab.org/>
Contributor *Jul. 2019 – present*

Teaching Experience

- **Algorithmic Robotics (COMP 450/550)** *Guest Lecturer* *Rice University, Houston*
Nov. 2022
- **Graduate Seminar (COMP 600)** *Instructor Assistant* *Rice University, Houston*
Sept 2022
- **Algorithmic Robotics (COMP 450/550)** *Guest Lecturer* *Rice University, Houston*
Nov. 2021
- **Artificial Intelligence (COMP 440/557)** *Teaching Assistant* *Rice University, Houston*
Aug. 2019 – Dec. 2019
- **Probabilistic Algorithms and Data Structures (COMP 480/580)** *Teaching Assistant* *Rice University, Houston*
Jan. 2019 – May 2019
- **Algorithmic Robotics (COMP 450/550)** *Teaching Assistant* *Rice University, Houston*
Aug. 2018 – Dec. 2018
- **Rice DataScience Bootcamp** *Teaching Assistant* *Rice University, Houston*
Aug. 2018
- **Statistical Machine Learning (COMP 440/540)** *Teaching Assistant* *Rice University, Houston*
Jan. 2018 – May. 2018

Service

Reviewer: *IROS, ICRA, RAL, TMECH, TRO*

Invited Talks: *TU Berlin, IEEE RAS School,*

Organized Workshops: *“Evaluating Motion Planning Performance ”, IROS 2022*

Skills/Other

Software: *ROS, Keras, Tensorflow, OMPL, MoveIt*

Programming: *C/C++(Expert), Python(Expert), Java(Intermediate), MATLAB(Intermediate)*

Languages: *Greek(Mother Tongue), English(Excellent), German(Good)*

Social: *Officer of Rice University’s CS-GSA, Graduate Wellbeing Peer*

Publications

- [1] C. Chamzas*, M. Lippi*, M. C. Welle*, A. Varava, L. E. Kavraki, D. Kragic “Comparing Reconstruction-and Contrastive-based Models for Visual Task Planning”, *IEEE/RSJ International Conference on Intelligent Robots and Systems, 2022 (IROS)*, 2022.
- [2] Y. Lee, C. Chamzas, and L. E. Kavraki “Adaptive Experience Sampling for Motion Planning using the Generator-Critic Framework”, *IEEE Robotics and Automation Letters (RAL)*, 2022.
- [3] C. Chamzas*, F. Eweje* , L. E. Kavraki, E. L. Chaikof “Human Helath and Equity in an Age of Robotics and Intelligent Machines”, *National Academy of Medicine Perspectives*, 2022.
- [4] C. Chamzas, A. Cullen , A. Shrivastava, L. E. Kavraki “Learning to Retrieve Relevant Experience for Motion Planning”, *IEEE International Conference on Robotics and Automation (ICRA)*, 2022.
- [5] C.Quintero-Peña*, C. Chamzas*, Z. Sun, V. Unhelkar, L. E. Kavraki “Human-Guided Motion Planning in Partially Observable Environments”, *IEEE International Conference on Robotics and Automation (ICRA)*, 2022.
- [6] C. Chamzas, C. Quintero-Peña, Z. Kingston, A. Orthey, D. Rakita, M. Gleicher, M. Toussaint, L. E. Kavraki “MotionBenchMaker: A tool to Generate and Benchamark Motion Planning Datasets”, *IEEE Robotics and Automation Letters (RAL)*, 2022.
- [7] M. Moll, C. Chamzas, Z. Kingston , L. E. Kavraki “HyperPlan: A Framework for Motion Planning Algorithm Selection and Parameter Optimization”, *In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021.
- [8] Z.Kingston, C. Chamzas, L. E. Kavraki “Using Experience to Improve Constrained Planning on Foliations for Multi-Modal Problems”, *In IEEE/RSJ International Conference on Intelligent Robots and Systems(IROS)*, 2021.
- [9] C. Chamzas, Z. Kingston, C.Quintero-Peña, A. Shrivastava, L. E. Kavraki “Learning sampling distributions using local 3D workspace decompositions for motion planning in high dimensions”, *IEEE International Conference on Robotics and Automation (ICRA)*, 2021. **Top-4 finalist for best paper in Cognitive Robotics**
- [10] C. Quintero-Peña*, C. Chamzas*, V.Unhelkar, L.E.Kavraki “Motion Planning via Bayesian Learning in the Dark”, *In ICRA2021: Workshop on Machine Learning for Motion Planning*, 2021.
- [11] E. Pairet, C. Chamzas, Y. Petillot, L. E. Kavraki “Path Planning for Manipulation using Experience-driven Random Trees”, *IEEE Robotics and Automation Letters (RAL)*, 2021.
- [12] D. Chamzas, C. Chamzas, K. Moustakas “cMinMax: A Fast Algorithm to Find the Corners in an N-dimensional Convex Polytope”, *International Conference on Computer Graphics Theory and Applications (GRAPP)*, 2021.
- [13] C. Chamzas*, M. Lippi* , M. C. Welle*, A.Varava, A.Marino, D. Kragic, L.E.Kavraki “Structuring Latent Representation with Minimal Supervision for Robotic Tasks ”, *3rd Robot Learning Workshop in NeurIPS*, 2020.
- [14] C. Chamzas, A. Shrivastava, L. E. Kavraki “Using Local Experiences for Global Motion Planning”, *IEEE International Conference on Robotics and Automation (ICRA)*, 2019.