

## Education

- **William Marsh Rice University** Houston, TX, USA  
*Ph.D. in Computer Science, Advisor: Dr. Lydia E. Kavraki* Aug. 2017 – Present
  - 8 semesters completed
  - Research Areas: Integrating Learning and Planning, Representation Learning, Motion Planning, Task and 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
- **TracLabs Robotics Group**, <https://tracilabs.com/> TracLabs, Houston  
*Research Intern* Jul. 2019 – Aug. 2019
  - Integrated a motion planning framework (OMPL) with existing infrastructure (CRAFTSMAN)
  - Investigated experience-based planning in an industrial manipulation problem
- **Pandora Robotics Group**, <http://pandora.ee.auth.gr/> Aristotle University, Thessaloniki  
*Software Engineer and Tester* Sep. 2013 – Feb. 2015
  - Mapped robot's georeferenced track and surrounding environment in a 2D geotiff (Qt, C++)
  - Developed an online diagnostic tester for ROS nodes

## Open Source Software

- **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

## Awards, Nominations and Fellowships

- **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

## Publications

- [1] C. Chamzas, C. Quintero-Peña, Z. Kingston, A. Orthey, D. Rakita, M. Gleicher, M. Toussaint, L. E. Kavraki “MotionBenchMaker: A tool to Generate and Benchmark Motion Planning Datasets” *IEEE Robotics and Automation Letters (RAL)*, 2022.
- [2] 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.
- [3] 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.
- [4] C. Chamzas, Z. Kingston, 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**
- [5] 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.
- [6] 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.
- [7] 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.
- [8] 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.
- [9] C. Chamzas, A. Shrivastava, L. E. Kavraki “Using Local Experiences for Global Motion Planning,” *IEEE International Conference on Robotics and Automation (ICRA)*, 2019.

## Teaching Experience

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| • <b>Algorithmic Robotics (COMP 450/550)</b><br><i>Guest Lecturer</i>                             | Rice University, Houston<br><i>Nov. 2021</i>             |
| • <b>Artificial Intelligence (COMP 440/557)</b><br><i>Teaching Assistant</i>                      | Rice University, Houston<br><i>Aug. 2019 – Dec. 2019</i> |
| • <b>Probabilistic Algorithms and Data Structures (COMP 480/580)</b><br><i>Teaching Assistant</i> | Rice University, Houston<br><i>Jan. 2019 – May 2018</i>  |
| • <b>Algorithmic Robotics (COMP 450/550)</b><br><i>Teaching Assistant</i>                         | Rice University, Houston<br><i>Aug. 2018 – Dec. 2018</i> |
| • <b>Rice DataScience Bootcamp</b><br><i>Teaching Assistant</i>                                   | Rice University, Houston<br><i>Aug. 2018</i>             |
| • <b>Statistical Machine Learning (COMP 440/540)</b><br><i>Teaching Assistant</i>                 | Rice University, Houston<br><i>Jan. 2018 – May. 2018</i> |

## Skills

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

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

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