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## FRANCISCO MAXIMILIANO GARCÍA

### EDUCATION **UNIVERSITY OF MASSACHUSETTS – AMHERST**

Ph.D Candidate, Computer Science

M.S. Computer Science

### **UNIVERSITY OF THE SCIENCES**

B.S. Computer Science

Minor in Bioinformatics

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### PROFESSIONAL **RESEARCH INTERN, MICROSOFT RESEARCH**

EXPERIENCE Fall 2016

Develop and implement navigation framework for autonomous vehicles.

### **RESEARCH ASSISTANT, UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL**

Summer 2015

Design and develop system for text analysis in PDF format.

### **RESEARCH INTERN, ADOBE SYSTEMS**

Summer 2014

Develop and integrate natural language processing (NLP) tools for data analytics.

### **RESEARCH ASSISTANT, UNIVERSITY OF PENNSYLVANIA**

05/2011 – 08/2013

Assist in research in Artificial Intelligence and develop relevant applications. Focused on path finding and navigation.

### **SOFTWARE DEVELOPER, DMGCTRL**

02/2012 – 05/2013

Develop, maintain and improve iOS and web applications.

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### RESEARCH **RESEARCH IN MACHINE LEARNING – UNIVERSITY OF MASSACHUSETTS**

EXPERIENCE **(01/2015 – Current)**

Research on predictive models, computer vision and reinforcement learning.

### **RESEARCH IN PATH FINDING AND PLANNING ALGORITHMS – UNIVERSITY OF PENNSYLVANIA**

**(09/2011 – 08/2013)**

Research on motion planning and path finding algorithms. Supervised by Dr. Norman Badler and Dr. Mubbasir Kapadia.

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**UNDERGRADUATE SUMMER RESEARCH PROGRAM – UNIVERSITY OF PENNSYLVANIA  
(05/2011 – 08/2011)**

**UNDERGRADUATE SUMMER RESEARCH PROGRAM – UNIVERSITY OF PENNSYLVANIA  
(05/2011 – 08/2011)**

Research on behavior trees and smart events. Supervised by Dr. Norman Badler.

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**PRESENTATIONS**

- García, Francisco M. (2014). “GPU-based Dynamic Search on Adaptive Resolution Grids”, ICRA, Hong Kong, China.
- García, Francisco M. (2014). “Data Tone: A Natural Language query engine for data analytics”, GEM Conference, San Diego, CA.
- García, Francisco M. (2011). “Nature-inspired Algorithms”, Alpha Chi National Convention, San Diego, CA.
- García, Francisco M. (2010). “On Game Theory”, MAA, LaSalle University, Philadelphia, PA.

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**PAPERS**

- Francisco M. Garcia, Bruno C. da Silva. A Compression-based Approach to Learning an Exploration Strategy in RL, 2017, Submitted to AAAI (Under review)
  - Giguere Stephen, Francisco M. Garcia, Shridar Mahadevan. A Manifold Approach to Learning Mutually Orthogonal Subspaces. 2016, <https://arxiv.org/abs/1703.02992>
  - Kai Ninomiya, Mubbasir Kapadia, Alexander Shoulson, Francisco M. Garcia, Norman I. Badler, Planning Approaches to Constraint-aware Navigation in Dynamic Environments. 2014, Computer Animation and Virtual Worlds
  - Francisco M. Garcia, Mubbasir Kapadia and Norman I. Badler. GPU-based Dynamic Search on Adaptive Resolution Grids. 2014 IEEE International Conference on Robotics and Automation, Hong Kong, China
  - Mubbasir Kapadia, Kai Ninomiya, Alexander Shoulson, Francisco M. Garcia and Norman I. Badler, Constraint Aware Navigation in Dynamic Environments, ACM SIGGRAPH conference on Motion in Games (MIG '13).
  - Mubbasir Kapadia, Francisco García, and Norman I. Badler. Dynamic Search on the GPU. IEEE/RSJ International Conference on Intelligent Robots and Systems, 2013
  - Mubbasir Kapadia, Alejandro Porres, Francisco García, Vivek Reddy, Nuria Pelechano, and Norman I. Badler. “Multi-Domain Real-time Planning in Dynamic Environments”. ACM SIGGRAPH/EUROGRAPHICS Symposium of Computer Animation, 2013
  - Shoulson, Alexander, Francisco M. García, Matthew Jones, Robert Mead & Norman I. Badler (2011). “Parameterizing Behavior-
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Trees". Jan M. Allbeck & Petros Faloutsos (Eds.). *Proceeding of the Fourth International Conference on Motion in Games (MIG '11)*. Springer-Verlag, Berlin.

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