Matthew Gardner

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EDUCATION

IOWA STATE UNIVERSITY
PhD in Computer Science
Sep 2014 – Present | Ames, IA
GPA: 3.8 / 4.0

UC, IRVINE
BS in Computer Science
Mar 2014 | Irvine, CA
Graduated Cum Laude
GPA: 3.8 / 4.0

SANTA MONICA COLLEGE
BS in Computer Science
Jun 2012 | Santa Monica, CA
GPA: 3.4 / 4.0

LINKS

Website:// **mgardner.me**
Github:// **mattga**
LinkedIn:// **mgardner91**
Facebook:// **matt.gardner**

COURSEWORK

Algorithm Design and Analysis
Problem Solving Techniques for
  Applied Computer Science
Computational Geometry
Advanced Machine Learning
Artificial Intelligence
Computer Graphics & Modeling
Computational Perception
Surface Modeling
Principles of Database Systems

AWARDS

2016 | Ames, Iowa
Robert Stewart Early Research
  Recognition Award
Hack ISU Hackathon 1st/48
Grad Research Contest 2nd/20+

2014 | Irvine, CA
Ingenuity Showcase 1st/99+

2012 | Irvine, CA
MedAppJam 6th/19

2010 | Santa Monica, CA
W. Felix Werner Scholarship Award

2009 | Washington, D.C.
National Youth Leadership Forum
on National Security

EXPERIENCE

IOWA STATE UNIVERSITY | Teaching Assistant
Aug 2014 – Present | Ames, IA
  – Course: Software Development Practices (Head TA).
  – Course: Problem Solving Techniques for Applied Computer Science.

WORKIVA | Software Development Intern
May 2015 – Aug 2015 | Ames, IA
  – Worked on features to improve **Vessel**, a brokered message queue in Golang.
  – Built a benchmark to test distributed machines (via GCE) communicating with a Vessel cluster, resulting in a 15x increase in performance after optimizations.

SMILEFISH, INC. | Mobile App Developer + Project Manager
Mar 2014 – Aug 2014 | Irvine, CA
  – Implemented features and bug fixes for the social e-commerce app **eddi.com**.
  – Redesigned (front+back end) and deployed app to improve English speech.
  – Led a team through concept and design of a language learning app.

NUMECENT, INC. | Quality Assurance Intern
Jun 2013 – Aug 2013 | Irvine, CA
Maintained test cases and wrote automation scripts for smoke and regression tests.

FBI | Intern with Cyber Division
Sep 2008 – Feb 2010 | Westwood, CA
  – Used various analytics tools to organize and visualize data for the team.
  – Networked and built a moderate-sized lab for use by the Cyber Squad.

RESEARCH

IOWA STATE UNIVERSITY | Robotics Lab [site]
Jan 2015 – Present | Ames, IA
Current work on impact dynamics in robotics, including motion and impact planning, computer vision, and Kalman filtering techniques.

UNIVERSITY OF CALIFORNIA, IRVINE | Undergraduate Research
Nov 2013 – Mar 2014 | Irvine, CA
  – Developed course planning software to help decide courses to offer by modeling a student's program of study as a linear programming problem.
  – Built a database extension to persist statistics for a WebRTC benchmark.

PUBLICATIONS

[1] Matthew Gardner and Yan-Bin Jia. Estimating the linear and angular velocities of a free-flying object. In *ICRA, IEEE/RSJ* (Submitted), Brisbane, Australia, 2018. [pdf]

[2] Yan-Bin Jia, Matthew Gardner, and Xiaoqian Mu. Batting an in-flight object to the target. Submitted to *International Journal of Robotics Research*, 2017. [pdf] [video]

[3] Matthew Gardner and Yan-Bin Jia. Batting flying objects to the target in 2d. In *IROS, IEEE/RSJ*, pages 3225–3232, Daejeon, Korea, 2016. [pdf]

SKILLS

PROGRAMMING
Proficient: C++ ∘ Java ∘ Obj-C ∘ C# ∘ SQL ∘ Matlab ∘ LaTeX
Familiar: C ∘ Swift ∘ CSS+HTML ∘ PHP ∘ Javascript ∘ R ∘ AutoIT