matthewgardner

developer | traveler | researcher

contact

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languages

Proficient in - C++,
Obj-C, Java, Golang,
Matlab, C#, C
Familiar with - Node.js,
R, JavaScript, AutoIT

environments

iOS, Android,
ASP.NET MVC, JRE,
GCE, AWS, OpenCV,
OpenGL
(Unix & Windows)

tools

Xcode, Visual Studio,
Eclipse, IntelliJ, Android
Studio, Git, SVN,
Perforce

education

2014–Now	**Ph.D Computer Science** – 3.8 GPA	Iowa State University
	PhD candidate with the Robotics Lab	
2012–2014	**B.S. Computer Science** – 3.8 GPA	University of California, Irvine
	Graduated with Cum Laude honors.	
2009-2012	**Computer Science**	Santa Monica College

experience

2015–Now — **Iowa State University, Computer Science Robotics Lab** — Ames, Iowa
Research Assistant under Dr. Yan-Bin Jia
Ongoing work includes Motion and Impact Planning for a robot manipulator, Image Processing, and Kalman Filtering techniques (generously funded by NSF).

2014–2016 (16 mo.) — **Iowa State University** — Ames, Iowa
Teaching Assistant
Head TA for ISU's Software Engineering project course. Responsibilities include:
- Management of 8-10 TAs and 160+ students.
- Conduct meetings with TAs (as well as student teams) and produce administrative deliverables to ensure agile practices are in place.
- Providing technical assistance in all areas to students (mobile, web, game development, etc.)
- Oversight of team projects to ensure sufficient complexity and success.

2014 (3 mo.) — **Workiva** — Ames, Iowa
Software Development Intern
- Worked on features for Vessel, a brokered messaging system including client and server daemons in Golang, Java, Python, and Dart.
- Independently built a benchmarking framework that simulates many distributed machines (via GCE) communicating with a cluster of vessels. The benchmark is used to identify bottlenecks, and has led to over an order of magnitude of increase in performance.

2014 (7 mo.) — **Smilefish, Inc.** — Irvine, California
iOS/ASP.NET Developer and Project Manager
- Collaborated with Taiwanese company TutorGroup and lead a team through design of a Web, iOS, Android & Windows 8 language learning application.
- Produced concept phase deliverables, including Data Model, Architecture, Core Requirements, Functional Requirements, Rest Services, Mockups, and Narratives.
- Worked on multiple projects in an agile environment, including bug fixes and implementation of new features in iOS, C# ASP.NET, and SQL.
- Gained knowledge in diverse areas of iOS Development, from completely custom user interfaces, to App Purchases and all in between.

2013–2014 (5 mo.)	**University of California, Irvine**	Irvine, California

Research Assistance
  – Work under Dr. Alex Veidenbaum to build a MySQL database extension for Intel-funded WebRTC Benchmark application. Manages timings and other metadata for peers exchanging audio, video, and data.
  – Developed Course Planning software that models student's program of study as a Linear Programming problem, and solves them using Gurobi Optimization. The work currently assists Dr. Ian Harris as Vice Chair of Undergraduate Education with planning courses to offer.

2013 (3 mo.)	**Numecent, Inc.**	Irvine, California

Quality Assurance Intern
Rapidly progressed in a testing environment for Numecent's patented cloud-paging technology.
  – Performed bug reporting and creation of test cases.
  – Coded automation programs for test cases using AutoIT, configured virtual machines, and managed Smoke, Compatibility, and Regression tests for client and server software.
  – Collaborated continuously in an agile environment.

2008–2010 (18 mo.)	**Federal Bureau of Investigation**	Westwood, California

Cyber Squad Intern
  – Assisted with various investigations requiring top-secret clearance, furthering my knowledge of computer security and malware.
  – Used various analysis tools for organizing and visualizing information (data, evidence, etc).
  – Networked and built a moderately-sized lab for use by the Cyber Squad.

publications

Batting Flying Objects to the Target in 2D
  Matthew Gardner, Yan-Bin Jia, Huan Lin
  International Conference on Intelligent Robots and Systems *(2016). 2016*

awards

2016	**HackISU: Best Entrepreneurial Hack, Best Healthcare Hack**	Iowa State University

FallWatch - iOS + Apple Watch app for remote monitoring of emergencies using patterns in sensor data from the Apple Watch.

2016	**2nd Place Graduate Research, Department of Computer Science**	Iowa State University

Research presented on Impact Planning and Modeling in Robotics.

2014	**Cum Laude Honors**	University of California, Irvine

2014	**1st Place Ingenuity - Student Technology Showcase**	University of California, Irvine

River - An iOS + Web app for collaborative, gamified music streaming.

2011-2014	**Dean's Honor List**	Santa Monica College and University of California, Irvine

2013	**Associate Dean's Scholarship Award**	University of California, Irvine

2012	**Top 12 MedAppJam**	University of California, Irvine

NearMiss - iOS app for reporting and managing "near miss" incidents to prevent future harmful incidents.

2009	**W. Felix Werner Scholarship Award**	Santa Monica College

2009	**National Youth Leadership Forum on National Security**	Washington D.C.