

WORK HISTORY

**RESEARCHER/TEACHING ASSISTANT,
UC SANTA BARBARA**
Santa Barbara, CA
September 2016 – Present

**DIRECTOR OF PRODUCT DEVELOPMENT,
ACHILLES HEEL TECHNOLOGIES**
Orem, UT (remotely)
January 2018 – Present

**RESEARCHER/TEACHING ASSISTANT,
BRIGHAM YOUNG UNIVERSITY**
Provo, UT
January 2014 – Present

**DATA SCIENTIST,
APPLIED INVENTION**
Orem, UT (remotely) & Boston, MA
March 2015 – August 2019

SUMMER INTERN, MIT LINCOLN LABORATORY
Lexington, MA
June 2015 – August 2015

IT MANAGER, BRAINSTORM, INC
American Fork, UT
January 2010 – December 2013

ACADEMIC RESEARCH

Value of information in multiagent systems

- Proved performance guarantees as agents' communication network changes
- Showed that strategic info exchange increases performance
- Explored how performance is affected by parallel computation
- Described precisely how performance can improve with increased info exchange

Network security as a game

- Modeled network security against "crossfire attacks" as a game between router and attacker
- Showed the value to the router of knowing the precise value of attacker's budget
- Described router/attacker optimal policies

Schedule optimization for batch flow shops

- Designed a scheduling method that leverages data from 3 different levels of control
- Collaborated with an interdisciplinary team as the computer science liaison
- Created a novel algorithm and showed improved performance guarantees

PROFESSIONAL RESEARCH

The stock market as an indicator for internet health	Led a team in exploring how stock market data could be used to infer internet outages
	Contributed to a larger project to monitor internet health worldwide
Setting prices	Contributed to an algorithm to help a Fortune 500 company set prices in a competitive market
	Algorithm was implemented and used, showing an increase in revenue
Modeling atmospheric phenomenon	Created a MATLAB model to show how phenomenon affects certain types of optical signals
	Model is used today for field testing sites
Agricultural system identification	Created an algorithm in Python to infer soil parameters based on observations
	Method has been implemented in agricultural software across the US

UC SANTA BARBARA

PhD in Electrical Engineering, expected graduation January 2021

Recipient of National Science Foundation IGERT Fellowship for Network Science

Remainder of funding by Office of Naval Research

BRIGHAM YOUNG UNIVERSITY

MS in Computer Science, April 2016

Funded by Department of Homeland Security

BRIGHAM YOUNG UNIVERSITY

BS in Electrical Engineering, April 2006

Recipient of the four-year, full-tuition Heritage Scholarship

SOFTWARE

- Experience coding in:
 - Python
 - MATLAB
 - C++, C#
 - R
- Have used the following in research:
 - Neural networks
 - Clustering algorithms
 - Reinforcement learning

ACADEMIC PRESENTING

- UCSB Grad Slam Semifinalist (2018)
- BYU CS 3-Minute Thesis Winner
- BYU Spring Research Conference Session Award Winner (2015, 2016)

PROFESSIONAL PRESENTING/TRAINING

- Was a key member of the team that pioneered the Customer Immersion Experience (CIE), a sales program that Microsoft implements for its top customers. This program affected \$1 billion of revenue in 2011.
- Effectively coached internal Microsoft sales staff and partners domestically and internationally on the CIE, influencing Microsoft's worldwide sales revenue.
- Innovatively and independently redesigned the training curriculum used by all BrainStorm trainers to be scenario-focused, setting the company apart from competitors.

JASON MARDEN

Professor, Electrical & Computer Engineering, UC Santa Barbara

805-893-2299, jrmarden@ece.ucsb.edu

SEAN WARNICK

Professor, Computer Science, Brigham Young University

Managing Partner, Achilles Heel Technologies

801-422-6463, sean@cs.byu.edu

JOÃO HESPANHA

Professor, Electrical & Computer Engineering, UC Santa Barbara

805-893-7042, hespanha@ece.ucsb.edu