

NADA ATTAR

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ACADEMIC POSITIONS

- 8/2018 – current **SAN JOSE STATE UNIVERSITY** San Jose, CA
Assistant Professor of Computer Science, Dept. of Computer Science, School of Science
- Research in eye-movement, human-computer interaction, user experience, data science, computer vision, machine learning, mobile interfaces, pattern recognition, cognitive load
 - Director of Computer-Human Accessibility & Interaction lab
- 7/2017 – 6/2018 **SAINT MARY’S COLLEGE OF CALIFORNIA** Moraga, CA
Assistant Professor of Computer Science, Dept. of Math & Computer Science, School of Science
- Spearheaded design & successful launch of Computer Science minor at College
 - Organized student field trips to high-tech firms such as Google for student mentorship & career planning
- 1/2016 – 5/2016 **UNIVERSITY OF MASSACHUSETTS BOSTON** Boston, MA
Lecturer, Department of Computer Science
- Taught Computing with Data Structures.

EDUCATION

- 3/2017 – 8/2017 **HARVARD UNIVERSITY** Boston, MA
Post-Doctoral Research Fellow, Bowers Lab, Schepens Eye Research Institute, Mass. Eye & Ear Institute
- Measured the effects of age, cognitive load, & visual impairment in peripheral detection performance in vehicle driving in old age
- 2010 – 2016 **UNIVERSITY OF MASSACHUSETTS** Boston, MA
Doctor of Philosophy in Computer Science, Visual Attention Laboratory
- Thesis: Enhancing Cognitive Load Measurement & User Performance in Human Computer Interaction
 - **Patent:** Nada Attar. Apparatus, method and computer-readable medium that assign measure to an item and assist location. **Publication No.** US-2017-0249364-A1, **Publication Date:** 8/31/2017
- 2010 – 2013 **HARVARD UNIVERSITY** Cambridge, MA
Fellow, Harvard College Observatory, Faculty of Arts and Sciences, Laboratory of Visual Learning, Harvard-Smithsonian Center for Astrophysics
- Built interfaces to improve reading for dyslexia & special needs measuring memory load in visual search
- 2007 – 2009 **TUFTS UNIVERSITY** Medford, MA
Master’s in Computer Science
- Select coursework in Algorithms, Object-Oriented Programming, Theory of Computation, Networking
- 2001 – 2005 **KING ABDUL AZIZ UNIVERSITY** Jeddah, Saudi Arabia
Bachelor’s in Computer Science, Magna Cum Laude
- 1st place for LAN-based scheduling system senior project; 1st place for app to help homeless in the city

PROFESSIONAL EXPERIENCE

- Summer 2019 **GOOGLE COMPUTER SCIENCE SUMMER INSTITUTE EXTENSION PROGRAM (CSSI-EXTENSION)**
Instructor Lead, San Jose State University Mountain View & San Jose, CA
- Helped launch inaugural CSSI program in collaboration with Google to increase the representation of women, minorities, and first-generation students in STEM and Computer Science
<https://blogs.sjsu.edu/newsroom/2019/sjsu-and-google-offer-computer-science-summer-institute-extension/>
 - Underwent one-week intensive training at Google on interactive teaching and facilitation skills
- Summer 2014 **IBM RESEARCH THOMAS J. WATSON RESEARCH CENTER** Yorktown Heights, NY
Research Intern, Customer Experience Lab & THINK Lab

- Developed app presented to Ginni Rometty the CEO of IBM which collects data and provides visualizations on client interactions to drive customer experience and engagement & better position IBM products
- Developed "help" functionality for researcher interaction portal using jQuery, and HTML

LEADERSHIP, SKILLS, HOBBIES

2015-2016 **COMPUTER SCIENCE GRADUATE STUDENT ASSOCIATION, UMASS BOSTON** Boston, MA
Founder & President

Technical Skills: C++, Objective C, Java, Python, MATLAB, Cocoa, iOS/Android development, JS, jQuery, HTML, etc.

Hobbies / Passions: Equestrianism, cooking, women & minority representation in computer science

TEACHING EXPERIENCE

	SAN JOSE STATE UNIVERSITY	San Jose, CA
Fall 2019	CS-151: Object-Oriented Design	
	CS-146: Data Structures and Algorithms	
Spring 2019	CS-151: Object-Oriented Design	
	CS-046B: Data Structures	
Fall 2018	CS-255: Analysis and Design of Algorithms	
	CS-151: Object-Oriented Design	
	SAINT MARY'S COLLEGE OF CALIFORNIA	Moraga, CA
Spring 2018	MA/CS-190: Computer Vision	
	MA/CS-021: Programming I (Python)	
	MA/CS-002: Digital Literacy: Introduction to Web Design	
Fall 2017	MA/CS-174: Algorithms	
	MA/CS-102: Programming II (using C++)	
Spring 2016	UNIVERSITY OF MASSACHUSETTS	Boston, MA
	<i>Lecturer</i> , CS-210: Intermediate Computing with Data Structures	
2015-2016	<i>Instructor</i> , Navitas Program for Masters' Students (foundational computer science principles for new students)	
2008-2009	TUFTS UNIVERSITY	Medford, MA
	<i>Teaching Assistant, C++ Lab</i>	

ACADEMIC ACTIVITIES

Conference Paper Reviewing

- ACM Symposium on Eye Tracking Research & Applications (ETRA), 2018, 2019
- 20th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI), 2018
- ACM Conference on Knowledge Discovery & Data Mining (SIGKDD), 2016
- Cognitive Science Society, 2016, 2017, 2018, 2019

Conference Adjudicating & Women in Science

- Speaker at CRA-W: Grad Cohort for Women in Computer Science. Session 1: "Master's vs. Ph.D." Session 2: "Perspectives from Grad Cohort Alums". Chicago, IL, 2019
- Poster Judge at ACM Final Poster Presentation Competition, Grace Hopper Celebration of Women in Technology (GHC), TX, 2018
- Mentor at Research Career One-to-One Mentor at Bees Speed Mentors. Grace Hopper Celebration of Women in Technology (GHC), TX 2018
- Mentor/Programmer at Open Source Day. Grace Hopper Celebration of Women in Technology (GHC), TX, 2018
- Guest at poster session at CRA-W: Grad Cohort for Women in Computer Science. San Francisco, CA 2018

Dissertation

- **Nada Attar**. Enhancing Cognitive Load Measurement & User Performance in Human Computer Interaction. University of Massachusetts Boston – Computer Science Department. Dec 2016

Summary: The thesis focused on user experience and user performance optimization via measurement of the user's cognitive state. This was achieved by leveraging tools such as psychophysical measurement, machine learning, neural networks, and statistical analysis. There are two problems that particularly solved in this thesis: i) how to enhance interface design using cognitive measurement, and ii) how to improve the measurement of user efficiency.

Patent

- **Nada Attar**, inventor; Apparatus, method and computer-readable medium that assign measure to an item and assist location. **Publication No.** US-2017-0249364-A1, **Publication Date:** 8/31/2017.
<https://patents.google.com/patent/US20170249364>

Proceedings

- Sudeep Raj, Chia-Chien Wu, Shreya Raj, **Nada Attar**. Understanding the Relationship between Microsaccades and Pupil Dilation, ACM ETRA: 2019 Symposium on Eye Tracking Research & Applications, article No. 67, 2019
- **Nada Attar** and Marc Pomplun. Enhancing Reading Interfaces and Comprehension Measurement with Eye Tracking Data. Proceedings of 2nd IEEE International Conference on Human Computer Interactions (ICHCI'16), pp. 124-129. 2016 [Acceptance rate: 12.28% (135/1099)]
- **Nada Attar**, Chia-Chien Wu, Djamel-Eddine Sia and Marc Pomplun. A Deeper Understanding of Optimal Viewing Position Using Eye Fixations and Character Recognition on Text-Viewing and Reading Tasks. ACM ETRA: 2016 Symposium on Eye Tracking Research & Applications, pp. 209-212, ACM, Charleston, SC, USA, 2016 [Acceptance rate 34%]
- **Nada Attar**, Paul Fomenky, Wei Ding and Marc Pomplun. Improving Cognitive Load Level Measurement through Preprocessing of Psychophysical Data by Random Subspace Time-Series Method. Proceedings of 2nd IEEE International Conference on Human Computer Interactions (ICHCI'16), pp. 80-84. 2016 [Acceptance rate: 12.28% (135/1099)]
- **Nada Attar**, Chia-Chien Wu and Marc Pomplun. The Effect of Immediate Accuracy Feedback in a Multiple-Target Visual Search Task. In Proceedings of the 36th annual meeting of the cognitive science society, pp. 1868-1873, Quebec, Canada, 2014 [Acceptance rate: 41%]

Abstract Presentations

- **Nada Attar**, Paul Fomenky, Wei Ding and Marc Pomplun. Modeling an Unsupervised Time-Series Learning Method for Visual Search Leveraging Preprocessed Cognitive Load Pupil Data. The 45th Annual Meeting of the Society for Computers in Psychology (SCiP), Chicago, USA, 2015
- Chia-Chien Wu, **Nada Attar** and Marc Pomplun. Involuntary semantic bias during search for words and word pairs. The Meeting of Visual Sciences Society 2015, Journal of Vision, 15 (12), pp. 1367-1367, 2015
- **Nada Attar**, Chia-Chien Wu and Marc Pomplun. Immediate Feedback During Multiple-Target Visual Search Improves Accuracy. The Meeting of the Visual Sciences Society 2014, Journal of Vision, 14 (10), pp. 1195-1195, 2014
- **Nada Attar**, Matthew Schneps and Marc Pomplun. Pupil Size as Measure of Working Memory Load during Visual Search. The Meeting of the Visual Sciences Society 2013, Journal of Vision, 13 (9), pp. 160-160, 2013
- **Nada Attar**, Matthew Schneps and Marc Pomplun. Working Memory Load Increase Predicts Visual Search Efficiency. The Meeting of the Visual Sciences Society 2012, Journal of Vision, 12 (9), pp. 291-291, 2012

Press

Atlas of Science: A Novel Approach to Reliability Predicting Efficient Visual Search, September 27, 2016.
<http://atlasofscience.org/a-novel-approach-to-reliably-predicting-efficient-visual-search/>

INVITED TALKS

- Speaker at the 35th Bay Area Discrete Math Day (BAD Math Day)- Saint Mary's College, "Working Memory Load Predicts Visual Search Efficiency: Evidence from a Novel Pupillary Response Paradigm", Oct 7th, 2017
- Speaker at Math Day - Saint Mary's College, "Why Computer Science". Sep 11th, 2017
- Speaker at Boston College, "Enhancing Interfaces with Eye Tracking in HCI". Jan 25th, 2017

- Speaker at VIVO Colloquium - Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School, Boston, “Enhancing User Working Memory Load Measurement”. Jan 18th, 2017
- Speaker at CS 188SL-01 Science Gateway Seminar - UMass Boston, “Cognitive Load Measurements in Human Computer Interaction”. Feb 9th, 2016
- UMass Boston Ph.D. Symposium Colloquium Talk, “Modeling an Unsupervised Time-Series Learning Method for Visual Search Leveraging Preprocessed Working Memory Pupil Data”. May 28th, 2015
- UMass Boston Ph.D. Symposium Colloquium Talk, “The Effect of Immediate Accuracy Feedback in a Multiple-Target Visual Search Task”. May 14th, 2014
- UMass Boston Ph.D. Symposium Colloquium Talk, “Working Memory Load Increase Predicts Visual Search Efficiency”. May 3rd, 2013