Alexa F. Siu

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EDUCATION

Stanford University, Stanford, CA June 2017 - Present
PhD Candidate in Mechanical Engineering

Stanford University, Stanford, CA September 2015 - June 2017
M.S. in Mechanical Engineering | GPA: 3.789

Georgia Institute of Technology, Atlanta, GA August 2011 - May 2015
B.S. in Biomedical Engineering
Minor in Computer Science - Artificial Intelligence
Highest Honors | GPA: 3.86

RESEARCH EXPERIENCE

SHAPE Lab, Stanford University September 2015 - Present
Research Assistant — PI: Sean Follmer, Ph.D. *Stanford, CA*

- Design and development of hardware and software for a novel open-source mobile tabletop shape display. Involved in PCB design, mechanical design, firmware development, communication protocols, coordination with vendors and manufacturers, and integration to virtual reality applications (in Unity) using the HTC Vive and OptiTrack.
- User evaluation of egocentric exploration of spatial data using a mobile tabletop shape display (submitted a paper under review to CHI'18).
- Investigating use of tangibles for remote design collaboration. Carried out a formative user study to inform the design of a tangible UI.

CHARM Lab, Stanford University June 2014 - August 2014
Research Assistant — PI: Allison Okamura, Ph.D. *Stanford, CA*

- Designed and programmed a user study to characterize the effect of time delay and low-pass filtering on human perception of stiffness and damping in haptic displays.
- Designed a physical variable stiffness and damping environment to interact with the Phantom Premium haptic device to analyze the performance of a bilateral teleoperator.

Lam Lab, Georgia Institute of Technology October 2012 - May 2015
Research Assistant — PI: Wilbur Lam, M.D., Ph.D. *Atlanta, GA*

- Investigated the interaction of neutrophil extracellular traps (NETs) and whole blood in relation to thrombosis.
- Developed a children's educational outreach program (BME HealthReach) to implement at hospitals using the patient's disease as a leverage to teach concepts in STEM.
- Assisted in validation through clinical trials and prototyping of an anemia diagnostic device (AnemoCheck) at Children's Healthcare of Atlanta.

PUBLICATIONS

A. F. Siu, E. J. Gonzalez, S. Yuan, J. Ginsberg, A. Zhao, and S. Follmer. 2017. shapeShift: A Mobile Tabletop Shape Display for Tangible and Haptic Interaction. In Adjunct Publication of the 30th Annual ACM Symposium on User Interface Software and Technology (UIST '17). ACM, New York, NY, USA, 77-79. DOI: https://doi.org/10.1145/3131785.3131792

A. F. Siu, S. Yuan, H. Pham, E. J. Gonzalez, L. H. Kim, M. Le Goc, S. Follmer (2016). Investigating Tangible Collaboration for Design Towards Augmented Physical Telepresence. In C. Meinel, & L. Leifer (Eds.), Design Thinking Research (pp. 131-145). Cham, Switzerland: Springer Nature.

N. Colonnese, **A. F. Siu**, C. M. Abbott and A. M. Okamura (2015) Rendered and Characterized Closed-loop Accuracy of Impedance-type Haptic Displays. IEEE Transactions on Haptics, 8(4):434-446.

E. A. Tyburski, ..., **A. F. Siu**, et. al. (2014). Disposable platform provides visual and color-based point-of-care anemia self-testing. The Journal of Clinical Investigation, 124(10), 43874394. http://doi.org/10.1172/JCI76666

TECHNICAL STRENGTHS

Programming	C Language, C++, C#, Python, Java, LaTeX.
Software	SolidWorks, Unity, CircuitMaker (PCB Design), Adobe Illustrator, Photoshop, Premiere, MATLAB, COMSOL Multiphysics (biotransport phenomena).
Languages	Spanish (native), French (proficient) and Mandarin (elementary proficiency).

TEACHING EXPERIENCE

Spring 2015	Teaching Assistant, Georgia Institute of Technology: Introduction to Artificial Intelligence (CS 3600) with Prof. Jim Rehg
Fall 2014	Teaching Assistant, Georgia Institute of Technology: Introduction to Biostatistics (BMED 2400) with Prof. Brani Vidakovic

WORK EXPERIENCE

National Secretariat for Science, Technology and Innovation May 2015 - August 2015
Technology Intern *Panama City, Rep. of Panama*

· Worked on the development of an online electronics and robotics open course in Spanish for Panamanian school teachers.

AWARDS & HONORS

2015	National Science Foundation Graduate Research Fellowship (NSF GRFP)
2015	Stanford School of Engineering Fellowship
2014	Stanford University Amgen Scholar
2013	Georgia Tech Up With The White & Gold Nominee - International Leadership Award
2012	The Coca-Cola Foundation: "100,000 Strong Initiative" Scholarship
2012	Women in Engineering Corporate Award sponsored by Kimberly-Clark
2012	Panama Science, Technology, and Innovation National Undergraduate Scholarship