

Elizabeth Bondi

1401 N Los Robles Ave, Apt. 3 – Pasadena, CA 91104

☎ 585-610-9961 • ✉ bondi@usc.edu • 🌐 bit.ly/ElizabethBondiHome
linkedin.com/in/elizabethbondi

Education

University of Southern California

P.h.D. Computer Science, CA

Los Angeles

2016-2021

Rochester Institute of Technology

B.S. Imaging Science, NY

Rochester

2012-2016

Cumulative GPA - 3.99, Summa Cum Laude, Dean's List, Honors Program

Honors

2017: Honorable Mention National Science Foundation Graduate Research Fellowship Program

2016: Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping Conference Best Paper Award

2016: Viterbi School of Engineering Ph.D. Merit Top-off Fellowship

2016: Women in Science Student Travel Award

2015: Barry Goldwater Scholar

2015: Universities Space Research Association (USRA) Thomas R. McGetchin Memorial Scholarship Award

2015: Outstanding Undergraduate Scholar Award

2015: Central New York, ASPRS Student of the Year Award

Experience

Dr. Lucas Joppa, Dr. Debadepta Dey, Dr. Ashish Kapoor

Microsoft Research Intern

September 2017 - Present

Simulation and automatic detection of poachers and animals in thermal infrared, UAV-based imagery.

Dr. Milind Tambe

Graduate Student Research Assistant

August 2016 - Present

Developing algorithm to aid anti-poaching efforts that will first automatically detect poachers and animals in thermal infrared (8-10 μm), UAV-based imagery, and second, use historical detections to predict future poaching locations and plan flight paths for the UAV. Supervising undergraduate and masters students in research tasks related to the project.

Dr. Carl Salvaggio

Remote Sensing Technician

May 2016 - August 2016

Developed calibration workflow for UAS imagery in various illumination conditions for improved vegetation index computation. Assisted in UAS data collection.

Dr. Derek Walvoord

Image Science Intern, Harris Space and Intelligence Systems

June 2016 - July 2016

Developed stabilization algorithm for aerial imagery.

Dr. Carl Salvaggio

Image Processing and Computer Vision Teaching Assistant

August 2015 - May 2016

Held office hours to help students in the course with programming assignments and graded projects. Projects include bilateral filtering, spatial filtering, Fourier domain filtering, Harris corner detection, histogram enhancements, and remapping.

Dr. Derek Walvoord

Image Science Intern, Harris Space and Intelligence Systems

June 2015 - August 2015

Created a feature matching algorithm that used both spatial and spectral information to improve multi-view geometric reconstruction. The algorithm was meant for hyperspectral datasets. A method to evaluate the performance of feature matching algorithms was also implemented.

Dr. Matt Golombek

Mars Data Analysis Intern, NASA's Jet Propulsion Laboratory

August 2014 - December 2014

Used images from Mars spacecraft to characterize potential landing sites for Mars missions using ArcGIS Desktop. Assisted in testing of the Mars Helicopter Scout, which is a proposed instrument that would fly ahead of the rover to image and map the terrain so that the rover could find a safe path to travel.

Dr. Roger Easton

Imaging Science Research Assistant

October 2012 - May 2015

Processed historical manuscript images using ENVI 5.0 Classic, Adobe Photoshop, and IDL, involving image cubes, flat field calibration, PCA, ICA, and pseudocolor rendering. Automated this process in IDL as part of the Summer Undergraduate Research Fellowship and travelled to Italy in July 2014 to assist in data collection and processing. Made metadata for files and created a new website for the Archimedes Palimpsest.

Publications

Conference Proceedings

- Elizabeth Bondi, Fei Fang, Mark Hamilton, Debarun Kar, Donnabell Dmello, Jongmoo Choi, Robert Hannaford, Arvind Iyer, Lucas Joppa, Milind Tambe, Ram Nevatia. SPOT Poachers in Action: Augmenting Conservation Drones with Automatic Detection in Near Real Time. In *Proceedings of the 30th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI-18)*, February 2018 (Emerging Applications Track).
- Elizabeth Bondi, Fei Fang, Debarun Kar, Venil Noronha, Donnabell Dmello, Milind Tambe, Arvind Iyer, Robert Hannaford. VIOLA: Video Labeling Application for Security Domains. In *Proceedings of the 8th International Conference on Decision and Game Theory for Security (GameSec)*, October 2017 (Data-Centric Models and Approaches Track).
- Elizabeth Bondi, Carl Salvaggio, Matthew Montanaro, Aaron Gerace. Calibration of UAS imagery inside and outside of shadows for improved vegetation index computation. In *Proceedings of the SPIE, Defense + Commercial Sensing, Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping Conference*, April 2016.
- Elizabeth Bondi, Briana Neuberger, Megan Iafrati, Joe Pow. Multidimensional Comparison of Project-Based Learning Programs. In *Proceedings of the 4th IEEE Integrated STEM Education Conference, 2014* (K-12 Integrated STEM Education Track).

Book Chapters

- Elizabeth Bondi, Jaih Craddock, Rebecca Funke, Chloe LeGendre, Vivek Tiwari. Maximizing the spread of sexual health information in a multimodal communication network of young Black women. In *Artificial Intelligence for Social Welfare*, 2017.

Presentations

- Video Labeling for Automatic Video Surveillance in Security Domains. At *Bloomberg Data for Good Exchange*, September 2017.

Students Mentored

- **Venil Noronha**. M.S., University of Southern California. Fall 2016, Spring 2017.
- **Donnabell Dmello**. M.S., University of Southern California. Spring 2017, Summer 2017, Fall 2017.
- **Anthony Nelson**. B.S., University of Southern California. Fall 2016, Spring 2017.
- **Apurva Gandhi**. B.S., University of Southern California. Fall 2016, Spring 2017.
- **Diane Reed**. B.S., University of Southern California. Fall 2016, Spring 2017.
- **Harshitha Rukmini**. M.S., University of Southern California. Spring 2017.
- **Kevin Le**. M.S., University of Southern California. Spring 2017.
- **Lauren Potterat**. B.S., University of Southern California. Fall 2016, Spring 2017.
- **Lucas Hu**. B.S., University of Southern California. Fall 2016, Spring 2017.
- **Samarth Kulkarni**. M.S., University of Southern California. Spring 2017.
- **Sriram Baskaran**. M.S., University of Southern California. Spring 2017.
- **Suraj Swarup**. B.S., University of Southern California. Fall 2016, Spring 2017.

- **Armando Tan.** B.S., University of Southern California. Spring 2017, Summer 2017.
- **Ryan Yang.** B.S., University of Southern California. Spring 2017.
- **Miristi Devereux.** B.S., University of Southern California. Summer 2017.

Service and Outreach

- Mentor for an undergraduate student through the USC WiSE Program
- Organized summer research in Dr. Milind Tambe's lab for undergraduate and masters students
- Discussed research, AI, and careers with 7th grade students in Girls Who Code, 4th grade students in Michigan, and first year undergraduate students at USC
- Volunteered at Robotics Open House
- Gave poster presentation and guided prospective students for USC PhD Visit Days
- Gave presentation for prospective high school students at Explore USC
- Participated in community outreach at RIT open houses, Rochester Museum and Science Center Science Saturday, OSA Memorial Art Gallery Year of Light Celebration, Homecoming COS Celebrate Science and Math CIS Booth
- Participated in RIT Board of Trustees Women in STEM Panel
- Mentored an undergraduate student through the RIT Imaging Science Peer Mentor Program