

Elizabeth Bondi

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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. 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

Refereed Conference Proceedings

- Pow, J.; Helguera, M.; Pieri, E.; Wolters, S.; Augspurger, M.; Neuberger, B.; Scholl, V.; Bondi, E., The Use of Peer Evaluations In A Non-Traditional First Year System Design Class, ASEE, 121st National Conference, T242 FPD4: Peers and Perceptions, Indianapolis, Indiana, United States (2014)

Conference Proceedings

- Bondi, Elizabeth; Salvaggio, Carl; Montanaro, Matthew; Gerace, Aaron D., Calibration of UAS imagery inside and outside of shadows for improved vegetation index computation, Proceedings of the SPIE, Defense + Commercial Sensing, Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping, Unmanned Aerial Vehicles in Precision Agriculture, 9866, 17, pp. 98660J-1-98660J-7, Baltimore, Maryland, United States (2016)
- Bondi, E.; Neuberger, B.; Iafrati, M.; Pow, J., Multidimensional Comparison of Project-Based Learning Programs, IEEE, 4th IEEE Integrated STEM Education Conference, K-12 Integrated STEM Education Track, Princeton, New Jersey, United States (2014)

Conference Presentations (No Proceedings)

- Pow, J.; Iafrati, M.; Kratzer, S.; Scholl, V.; Bondi, E., Putting the Capstone First: Turning the STEM Curriculum Upside Down, The League for Innovation in the Community College, 2013 STEMtech Conference, Atlanta, Georgia, United States (2013)

Posters

- RIT Undergraduate Research Symposium: Comparison of Independent and Principal Component Analysis for Historical Manuscript Image Processing, 2013

Internal Rochester Institute of Technology Presentations

- CIS Senior Research Symposium, Honors Research and Creativity Symposium: Calibration of UAS imagery inside and outside of shadows for improved vegetation index computation, 2016
- RIT Undergraduate Research Symposium: Spectral Image Processing Applied to Manuscripts of Cultural Importance from the Museo del Tesoro del Duomo in Vercelli, Italy, 2014
- ImagineRIT: Interactive Landscapes, 2014
- ImagineRIT: Multicamera Array, 2013

Students Mentored

- **Venil Noronha**. M.S., University of Southern California. Fall 2016, Spring 2017.
- **Donnabell Dmello**. M.S., University of Southern California. Spring 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.
- **Ryan Yang.** B.S., University of Southern California. Spring 2017.