

Troy Vargason

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EDUCATION	Rensselaer Polytechnic Institute Ph.D., Biomedical Engineering	Troy, NY Expected 2019
	Binghamton University, State University of New York B.S., Bioengineering Overall GPA: 3.99/4.00; Major GPA: 3.98/4.00 <i>Honors:</i> Summa cum laude; President's Honors; Dean's List (all semesters); member of Tau Beta Pi, the National Engineering Honor Society; member of Pi Mu Epsilon, the National Mathematics Honor Society; member of the Binghamton University Scholars Program	Binghamton, NY August 2011 - May 2015
SKILLS	Computer: MATLAB; R; Python; Microsoft Word, Excel, Powerpoint Language: Professional working proficiency in Spanish speaking, reading, and writing	
RESEARCH EXPERIENCE	Undergraduate Research Team Leader HIMI Interdisciplinary Research Program <ul style="list-style-type: none">• Led a three-person team to develop a clinical decision support system for analyzing atypical samples of pleural effusion in collaboration with UHS Wilson Medical Center• Developed a graphical user interface in MATLAB to process and analyze images of cell nuclei and diagnose them as benign or malignant• Achieved 90% classification accuracy by applying feature selection and other data mining techniques with R and Python	May 2014 - May 2015 Binghamton University
	Undergraduate Research Assistant Department of Biomedical Engineering, German Lab <ul style="list-style-type: none">• Investigated the adhesive properties of polydimethylsiloxane (PDMS) substrate bonded to lenticular sheeting at various substrate elasticities• Designed and built a small-scale tensile force measurement system• Created a novel area-under-the-curve algorithm in R to characterize force-displacement relationships from experimental data	April 2014 - May 2015 Binghamton University
	Undergraduate Research Assistant Department of Biomedical Engineering, Schaffer Group <ul style="list-style-type: none">• Worked towards identifying patterns in the speech of dementia patients by using data mining methods to analyze semantic and frequency metrics• Implemented a genetic algorithm/probabilistic neural network hybrid program in a UNIX command-line environment to identify feature subsets that optimized system classification performance at approximately 95% accuracy• Prepared audio samples for processing by using sound-editing software and manually transcribing the audio into text files for feature measurement	December 2013 - May 2014 Binghamton University
PROJECTS	Bioengineering Senior Design Capstone Project Active Pressure Ulcer Prevention Cushion for Wheelchair Users <ul style="list-style-type: none">• Designed and built, as part of a four-student team, a device for redistributing the weight of a seated user to ensure adequate blood flow to the skin and underlying tissues• Collaborated with clients at Binghamton University's Decker School of Nursing to establish design requirements, functions, and specifications• Constructed a system of solenoid valves to direct air flow to sets of inflatable air cells for relieving pressure at areas of interest on a patient• Achieved drops in pressure at bony prominences that were significant enough to allow for healthy levels of skin perfusion	August 2014 - May 2015 Binghamton University
	Junior Bioengineering Data Acquisition Project Using Body Position to Control the Motion of an Electronic Car <ul style="list-style-type: none">• Engineered a device that allowed for operation of a Bluetooth toy car by detecting changes in body position• Programmed an Arduino microcontroller to read measurements from an accelerometer and send input-dependent directional commands to the car wirelessly	March 2014 - May 2014 Binghamton University

**WORK
EXPERIENCE**

**Outdoor Power Equipment Sales Associate
Lowe's Home Improvement**

**May - August 2013
Vestal, New York**

- Answered questions for customers and assisted them with finding products that fit their needs
- Maintained an organized and well-stocked department

**Summer Tennis Instructor
Town of Vestal Recreation Department**

**June - August 2010 - 2012
Vestal, NY**

- Introduced the fundamentals of tennis to children and adolescents

**COMMUNITY
SERVICE**

**Fundraiser and Volunteer
Broome County Humane Society**

**June - August 2015
Binghamton, NY**

- Participated in set-up and tabling at fundraising events
- Helped with packing and moving of shelter supplies

**Gardening Volunteer
Binghamton Zoo at Ross Park**

**August 2011 - March 2013
Binghamton, NY**

- Maintained flower beds, did basic landscaping, and cleaned walking areas