Thilanka Munasinghe

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Education

Master of Science in Applied Mathematics (Expected Graduation: May 2016)
West Virginia University, WV, USA
Advisor: Dr. Marjorie Darrah.
Thesis: "Cooperative Control of Multi-Agents Optimization (UAVs) Using Genetic Algorithms".

Master of Science in Mechanical Engineering, December 2015
West Virginia University, WV, USA.
Advisor: Dr. John Kuhlman.
Thesis: Studying the Characteristics of Bubble Motion in Pool Boiling in Microgravity Conditions Under the Influence of a Magnetic Field.

Bachelor of Science in Aerospace Engineering, August 2008
West Virginia University, WV, USA.
Advisor: Dr. John Loth.

Work Experience

2014 Aug – Present	**CodeLAB Instructor (Android Programing) and Graduate Intern** at WVU Office of Innovation, Entrepreneurship and Commercialization (LaunchLAB).
2014 Feb – 2014 May:	**Visiting Research Student at Laboratory for Autonomous Marine Sensing Systems, MIT.** I worked with the MIT underwater robotic research group to develop autonomous decision-making path planning software in C++ for Autonomous Under Water Vehicles (AUVs).
2013 May – 2013 Aug:	**Visiting Research Student at Laboratory for Autonomous Marine Sensing Systems, MIT.** I developed a smooth curve path-planning algorithm for MIT MOOS-IvP open source software for AUVs.
2011 May – 2013 Jul:	**Research Assistant at Mathematics Department, WVU** I developed Genetic Algorithms (GA) and undertook Genetic Programming for Cooperative Control Systems, Task Management,

and Multi-Agent Systems.

2012 Jan – 2012Aug: **Research Intern at Information Research Corporation, Fairmont, WV.**
I integrated Genetic Algorithm software systems to a ground control station, and tested them with Unmanned Aerial Vehicles (UAVs).

2010 Jan– 2011 May: **Research Assistant at Mechanical and Aerospace Engineering.**
I conducted microgravity experiments to study the Kelvin Force Effect on Bubbles in paramagnetic liquids under microgravity conditions.

2005 Aug– 2009 May: **Resident Assistant at Dadisman Hall.**
I was a student mentor and staff member at the Dadisman Hall.

2003 Jun – 2004 Aug: **Intern at Arthur C. Clarke Institute for Modern Technology, Moratuwa, Sri Lanka.**
I conducted meteorite testing and studied the characteristics and composition of meteorites found in Sri Lanka.

TEACHING EXPERIENCE

Fall 2014 & Spring 2015:	Android Programming Instructor
Fall 2011:	Math Tutor at Mathematics Learning Center, Department of Mathematics WVU
Aug 2005 – May 2010:	Math and Physics Tutor at WVU Engineering Learning Center
Summer & Fall 2009:	Instructor for Engineering 102 (Intro to Engineering II)
Spring 2009:	Instructor for Engineering 101 (Intro to Engineering I)
Fall 2008:	Teaching Assistant University 101

PROGRAMMING SKILLS

- Proficient in Object Oriented Programing using JAVA and C++
- Proficient in Mobile Application Development using the Android Platform
- Proficient in Scientific Computing using Matlab and R
- Proficient in Design Tools such as AutoCAD and Solid Works

AWARDS

- **Best Business/Project Idea and Most Technically Interesting** Project Award at the Big Travel Data Hackathon 2013, organized by Hack Reduce for ***FlightR***.
- **Resident Assistant (RA) of the Year** Award of West Virginia University Dadisman Hall, 2008-2009 Academic Year.

- **Recognition Award from Sir Arthur. C. Clarke** for the meteorite and planetary science research 2003.

Invited Talks

- "Fluids and Bubble Motion Behavior in Microgravity Conditions" at Arthur C. Clarke Institute for Modern Technology, Sri Lanka; May 2010.
- "High Altitude Balloon Satellites" at American National College, Sri Lanka; June 2007.
- Guest Speaker at S.Thomas' College Mt.Lavinia to address the College Teaching Staff on "How to Teach High School Students Effectively" invited by Warden Dr. Indra De Soysa, Jan 2014.

Publications

Journal Publications

- Using Genetic Algorithms for Tasking Teams of Raven UAVs. Journal of Intelligent and Robotics Systems, *Marjorie Darrah, Edgar Fuller, Thilanka Munasinghe, Kristin Duling, Mridul Gautam, Mitchell Wathen.* 20th July 2012.
- A Flexible Genetic Algorithm System for Multi UAV Surveillance: Algorithm and Flight Testing. Journal of Unmanned Systems. *Marjorie Darrah, Jay Wilhelm, Thilanka Munasinghe, Mitch Wathen, Steve Yokum, Eric Sorton*. 7th January 2015.

Conference Publications

- Dynamic and Kinematic Characteristics of Bubble Flow Motion in Paramagnetic Liquid under Microgravity Conditions. International Conference on Fluid Flow Dynamics (ICFD), Sendai, Japan, *Thilanka Munasinghe,* November 2009.
- Transformation Mapping of Bubbles' 2-D Circular Shape to an Elliptical Shape Under Influence of a Magnetic Field in Pool Boiling in Microgravity Conditions. 5th MIT Conference on Computational Fluid and Solid Mechanics, Massachusetts Institute of Technology (MIT), Cambridge, MA, *Thilanka Munasinghe.* June 2009.
- Investigating Bubble Expansion in Pool Boiling Under Influence of Magnetic Field in Microgravity Conditions. World Scientific and Engineering Academy and Society, (WSEAS), Moscow, Russia, *Thilanka Munasinghe, Sanket Joshi.* August 2009.
- Studying the Characteristics of Bubble Motion in Pool Boiling in Microgravity Conditions Under the Influence of a Magnetic Field. Recent Advances on Space Technology (RAST), IEEE – AIAA Joint Conference, Istanbul, Turkey. *Thilanka Munasinghe*. June 2009.
- Investigating Bubble Behavior in Pool Boiling in Microgravity Conditions, World Congress on Engineering (WCE), International Association of Engineers (IAENG), Imperial College, London, UK, *Thilanka Munasinghe*, July 2008.

Poster Presentations

- Efficient Path Planning Algorithms for AUVs. Google Research Labs Conference, June 2014.
- Laminar to Turbulent Transition in Fluid Flow in Boiling, AIAA Young Professional and Student Education Conference, John Hopkins University, Baltimore, Maryland, November, 2008.

- Boling in Microgravity, AIAA Student Conference, University of Maryland, College Park, April, 2008.
- "Research Day at Capitol - 2008", Governor's Chamber, Charleston, West Virginia. January 2008.
- "WV-NANO", West Virginia University, Alumni Center, May 2009.

Professional Service

Mar 2014 – May 2014:	Member of the MIT Cricket Team
Aug 2005 – May 2008:	Senior Mentor at Office of International Students and Scholars
Jul – Dec 2008:	Member of the Student Conduct Board of WVU
2007 – 2008:	Vice President, International Student Association WVU
2007 – 2009:	Member of the WVU Cricket Club
2007 – 2008:	Member of Multi-Cultural Leadership Club WVU
Aug 2005 – Dec 2008:	Member of Hall Council, Dadisman & Stalnaker Hall
2000 – 2004:	Member of Sri Lanka Student Red Cross Society

References

Mr. Matt Harbaugh
Director at WVU, Office of Innovation, Entrepreneurship and Commercialization (LaunchLab)
Matt.Harbaugh@mail.wvu.edu
Tel: 304-293-3449

Dr. Marjorie Darrah
Professor at Department of Mathematics, WVU
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Tel: 304-293-8938

Dr. Robin Hensel
Assistant Dean of College of Engineering and Mineral Resources, WVU
robin.hensel@mail.wvu.edu
Tel: 304-293-0395

Prof. Eddie Fuller
Chairman Department of Mathematics, WVU
ef@math.wvu.edu
Tel: 304-293-2011

Prof. David Stewart
Associate Vice President for Student Affairs and Global Services, WVU
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Dr. Arjuna Balasuriya
Research Scientist, MIT
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