MARK MOYOU

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Education

2012-Pres. FLORIDA INSTITUTE OF TECHNOLOGY
PhD Candidate in Systems Engineering, *(Exp. Graduation: Spring 2017)*
Geometry Driven Probabilistic Models for Shape Matching, Classification and Retrieval
Chair: Adrian M. Peter

2012 FLORIDA INSTITUTE OF TECHNOLOGY
Master of Science in Systems Engineering

2000 FLORIDA INSTITUTE OF TECHNOLOGY
Bachelor of Science in Chemical Engineering (Cum Laude)

Experience

2010-Pres. *Research Assistant*
Information Characterization and Exploitation (ICE) Lab
Florida Institute of Technology Melbourne, FL

- Developing 2D and 3D shape analysis algorithms using information geometry
- Developed online multi-dimensional density estimator using wavelets †
- Prototyped anomaly detection algorithms for IP streams †
- Implemented unsupervised algorithms for target recognition and tracking †
- Presented findings at monthly status meetings †
  - † : *Funding Institution:* Harris Corporation (2 years)

2014-2016 *Computer Vision Research Assistant*
Transportation Systems Engineering Research (TSER) Lab
Florida Institute of Technology Melbourne, FL

- Prototyped unsupervised concrete crack detection algorithms ††
- Implemented geo-location free LiDAR point-set registration algorithms ††
  - †† : *Funding Institution:* Transportation Research Board (2 years)

2014/2016 *Graduate Mentor*
NSF Amalthea REU
Florida Institute of Technology Melbourne, FL

- Mentored teams of 2 undergraduate students on machine learning projects

2011-2016 *Event Manager*
Smooth Running Melbourne, FL

- Responsible for coordinating setup of various sporting events (Up to 5000 participants)

2010-2011 *Engineering Tour Guide*
Florida Institute of Technology - College of Engineering Melbourne, FL

- Conducted tours of Olin engineering complex to prospective students

2007-2014 *Fitness Instructor*
Clemente Center
Florida Institute of Technology Melbourne, FL

- Worked one-on-one with clients to develop and implement fitness programs
- Taught Cycling, Yoga, and Latin dance classes

Academic Experience

Teaching

	Teaching Assistant	**Florida Institute of Technology**
Spring 2017	*Technology Commercialization Strategy (ENM 5420)*	Department of Engineering Systems
Fall 2016	*Quality Engineering/Assurance (ENM 5100)*	Department of Engineering Systems
Summer 2016	*Introduction to Machine Learning (ECE 5270)*	Department of Engineering Systems
Spring 2016	*Research Methods in Systems Engineering (SYS 5370)*	Department of Engineering Systems
Fall 2015	*Research Methods in Systems Engineering (SYS 5370)*	Department of Engineering Systems
Fall 2011	*University Experience (FYE 1000)*	Department of Education

- Responsible for conducting class lectures, grading exams and projects

2016 *Lab Instructor*
Machine Learning Primer Course - Amalthea REU
Florida Institute of Technology Melbourne, FL

- Developed lab materials covering the topic of classification in machine learning
- Conducted interactive lab sessions with undergraduate students

2016 *Micro-teaching Facilitator*
Graduate Student Assistant (GSA) Seminar
Florida Institute of Technology Melbourne, FL

- Evaluated micro-teaching lesson plans for prospective GSAs
- Conducted and evaluate micro-teaching sessions

2014-2015 *Programming Instructor*
K-8 STEM Initiative
Viera Charter School Viera, FL

- Developed scratch programming modules
- Guided 1^{st} and 2^{nd} grade students through programming modules

Service

2014-2015 *Programming Instructor*
K-8 STEM Initiative
Viera Charter School — Viera, FL

- http://now.fit.edu/2014/04/10/peter-students-teach-coding-to-viera-charter-school-first-graders/#.U0dCjvldV8F

2016 *Programming Instructor*
Space Coast Fab Lab — Melbourne, FL

- Taught Introduction to Matlab short course

2016-Pres. Reviewer for *IEEE Conference on Pattern Recognition* (ICPR).

2016-Pres. Reviewer for *IET Image Processing*.

2016-Pres. Reviewer for *IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM)*

2016-Pres. Reviewer for *Structure and Infrastructure Engineering*

Publications

Journals

2016 **Mark Moyou**, John Corring, Adrian M. Peter, Anand Rangarajan "A Grassmannian Graph approach to Affine Invariant Feature Matching," *Pattern Analysis and Machine Intelligence (PAMI)*, Oct, 2016. (Under review)

2016 **Mark Moyou**, Eddy Ihou, Adrian M. Peter, "LBO-Shape Densities: A Unified Framework for 2D and 3D Shape Classification on the Hypersphere of Wavelet Densities," *Computer Vision and Image Understanding (CVIU)*, August, 2016.

Conferences

2017 Luis D. Otero, Adrian M. Peter, Paul Cosentino, **Mark Moyou**, "Remote Sensing with Mobile LiDAR and Imaging Sensors for Railroad Bridge Inspections (Safety IDEA Project S-26)," *TRB Annual Meeting,* January, 2017. (Final Project Presentation)

2016 Luis D. Otero, Adrian M. Peter, Paul Cosentino, **Mark Moyou**, "Remote Sensing with Mobile LiDAR and Imaging Sensors for Railroad Bridge Inspections (Safety IDEA Project S-26)," *TRB Annual Meeting,* January, 2016.

2015 **Mark Moyou**, Rana Haber, Koffi E. Ihou, Anthony Smith, Adrian M. Peter, Rhonda Henning, Kevin Fox, "Bayesian Fusion of Back Projected Probabilities (BFBP): Co-occurrence Descriptors for Tracking in Complex Environments," *Advanced Concepts for Intelligent Vision Systems (ACIVS),* November, 2015.

2014 Adrian M. Peter, Karthik Gurumoorthy, Anand Rangarajan, **Mark Moyou**, "A New Energy Minimization Framework and Sparse Linear System for Path Planning and Shape from Shading," *Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP),* December, 2014.

2014 **Mark Moyou**, Eddy Ihou, Adrian M. Peter, "LBO-Shape Densities: Efficient 3D Shape Retrieval using Wavelet Density Estimation," *International Conference on Pattern Recognition (ICPR),* August, 2014. (Oral presentation.)

2012 **Mark Moyou** and Adrian M. Peter, "Shape Analysis on the Hypersphere of Wavelet Densities," *International Conference on Pattern Recognition (ICPR),* November, 2012. (Oral presentation.).

Book Chapter

2016 Adrian M. Peter, Anand Rangarajan, **Mark Moyou**, "The Geometry of Orthogonal-Series, Square-Root Density Estimators: Applications in Computer Vision and Model Selection," *Computational Information Geometry*, October, 2016.

Honors and Awards

2013 *2nd Place in Florida Venture Forum Statewide Business Plan Competition*
Florida Venture Forum — Orlando, FL

2013 *Outstanding Student in Systems Engineering (Single Award)*
Department of Engineering Systems — Florida Institute of Technology

2010-2012 *Department Scholarship (Full scholarship for Masters degree)*
College of Engineering — Florida Institute of Technology

2008 *Employee of the Semester*
Clemente Center — Florida Institute of Technology

2007 *Dad Vail Regatta - Lightweight 8 Novice Champions (East Coast National Rowing Championships)*

2006-2008 *Dean's List*
College of Engineering — Florida Institute of Technology

Affiliations

2012-Pres. Student member of IEEE

2016-Pres. Public Relations Officer of Florida Tech INCOSE Chapter