Marco Piccirilli

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EDUCATION

West Virginia University, Morgantown, West Virginia, USA

- Ph.D. Electrical Engineering — Nov 2017
  - Thesis: Machine Learning Approach to Human Body Shape Analysis
  - Advisers: Prof. Gianfranco Doretto, Prof. Donald Adjeroh
  - Focus: Computer Vision, Machine Learning, Biometric, Soft-Biometric, Spectral Geometry.
- Fullfilled requirements for M.S. in Computer Science
  - Focus: Algorithms, Neural Networks, Deep Learning, Speaker verification.

Padova University, Padova, Veneto, Italy

- "Laurea" degree in Telecommunication Engineering — Apr 2007
  - Specialty: Optical Communication (EM Fields, Optical Fibers, Antenna Design, Laser Principles, Signal Processing, Image Processing)
  - Thesis: Spatial-Temporal Adaptivity in Distribuited Video Coding based on Continuous-Values Syndromes.
  - Advisor: Prof. Giancarlo Calvagno Co-Advisor: Ing. Lorenzo Cappellari
  - Focus: Source coding, channel coding, joint source-channel coding , distribuited video coding.

WORK/RESEARCH EXPERIENCE

Heart & Vascular Institute West Virginia University

- Research Scientist, **Center of innovation** — Jan 2018 – present
- Graduate Research Assistant, **Center of innovation** — Sep 2017 – Dec 2017
  - Dr. Partho Sengupta MD, MBBS, FACC
  - Focus: ML techniques for Left Ventricular Dysfunctions through Speckle Tracking.

LCSEE dept. West Virginia University,

- Graduate Research Assistant, **Vision Lab** — Jan 2013 – May 2018
  - Prof. Gianfranco Doretto
- Graduate Research Assistant, Video Image Processing (VIP) lab — Jan 2010 – Nov 2017
  - Projects: ONR project: Night Biometrics, advised by Dr. Don Adjeroh, Dr Arun Ross.
  - Data Collection with NIR camera, and Microsoft Kinect. Collection of sensible data from human subjects.
- **Co Principal Investigator**, Center for Identification Technology Research — Jan 2013 – Apr 2014
  - Project: A Mobile Structured Light System for 3D Face Acquisition: **paper**, **Personal blog**.
  - For a detailed description of my projects, refer to my **portfolio page**
  - Data acquisition with the device under test, Microsoft Kinect v1, Swissranger 4000 (ToF camera), Minolta Vivid 910 3D laser scanner.

LCSEE dept. West Virginia University,

- Visiting student, Video Image Processing (VIP) lab — Aug 2008 – Dec 2008
  - Project: Segmentation of vessels structures, and macular retinopathy in retinal images.
  - Supervisors: Prof. Xin Li Prof. Donald Adjeroh

Department of Information Engineering (DEI), **Padua Univ.**

- Research Associate, Digital Signal and Image Processing Lab @ DEI — Aug 2006 – Dec 2009
- Projects:
  - Distribuited Video Coding with Continuous-Value Syndromes,
  - Segmentation of vessels structures, and macular retinopathy in retinal images.
  - Advisor: Prof. Giancarlo Calvagno, Dr. Ing. Lorenzo Cappellari

OTHER

IEEE SPS Summer School on Signal Processing and Machine Learning for Big Data, Pittsburgh, PA, USA

- Organized by Pitt Swanson school of Engineering. — May 2016
  - **Programme**, **Lecturers**

ICVSS15 International Computer Vision Summer School, Sicily Italy

- Organized by Roberto Cipolla, Sebastiano Battiato, and Giovanni Maria Farinella. — Jul 2015
  - **Programme**, **Speakers**
  - Mentored by Marc Pollefeys

PUBLICATIONS

JOURNALS

[3] M. Piccirilli, G. Doretto, D. Adjeroh, "A Spectral Geometry Approach to Soft-Biometrics." **TO APPEAR**.

[2] M. Piccirilli, G. Doretto, D. Adjeroh, "A Framework for Analyzing the Whole Body Surface Area from a Single View" *PLOS ONE*, Jan 2017.

[1] M. Piccirilli, G. Doretto, A. Ross, and D. Adjeroh, "A Mobile Structured Light System for 3D Face Acquisition," *IEEE Sensor Journal*, vol. 16, no. 7, pp. 1854–1855, Apr 2016.

CONFERENCES

[4] Motjian, M. Piccirilli, D. Adjeroh ,G. Doretto "Unified Deep Supervised Domain Adaptation and Generalization." in *ICCV, 2017*, Venice, Italy, Oct 2017.

[3] Motjian, M. Piccirilli, D. Adjeroh, G. Doretto "Information Bottleneck Learning Using Privileged Information for Visual Recognition." in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016*, Las Vegas, Nevada, USA, Jun 2016.

[2] D. Cao, C. Chen, M. Piccirilli, D. Adjeroh, T. Bourlai, and A. Ross. In IJCB, 2011 "Can facial metrology predict gender?" in *Proceedings of the International Joint Conference on Biometrics*, Washington, DC, USA, Dec 2011.

[1] D. Adjeroh, D. Cao, M. Piccirilli, and A. Ross. "Predictability and correlation in human metrology." in *Proceedings of IEEE International Workshop on Information Forensics and Security (2010)*, Seattle, WA, USA Dec 2010.

DEMOS & PRESENTATIONS

- Structured light mobile 3D face acquisition systems Demo, **FBI visit at LCSEE** West Virginia University, WV, USA — Dec 2014
- Demo: A Mobile Structured Light System for 3D Face Acquisition **CiTer 2014 Spring Meeting** C/O SUNY Buffalo, NY, USA — May 2014
- Human Body Anthropometrics via Kinect sensor Demo **ONR Visit at LCSEE** West Virginia University, WV, USA — Oct 2012

AWARDS & SCHOLARSHIPS

- Awarded **WVU LCSEE** & **WVU Statler College** travel funds to attend **ICCV 2017**. — Oct 2017
- Awarded **WVU LCSEE** & **WVU Statler College** travel funds to attend **CVPR 2016**. — Jun 2016
- Awarded **WVU LCSEE** travel funds to attend **ICVSS 2015**. — Jul 2015
- **Finalist Innovation Award** West Virginia University — Sep 2014
- Awarded **WVU LCSEE** travel funds to attend **CiTer 2014 Spring Meeting**. C/O SUNY Buffalo, NY — May 2014
- **Midsumo Challenge: Use Technology to optimize our system for measuring furniture.** Jan 2014
  I proposed a solution to measure furniture with the use of open source libraries (OpenCV, PCL, OpenNI), and the Microsoft Kinect sensor.
- **CiTer Grant** 10.13039/100000179-NSF Office within the Director Industry and University Cooperative Research Program. — Jun 2013– Jun 2014
  Project: A Mobile Structured Light System for 3D Face Acquisition.
- Awarded **WVU LCSEE** travel funds to attend **IJCB**. — Oct 2011

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Reviewer: ICPRAM14, AVSS, IEEE Sensor, TPAMI, ICCV17, CVPR18, BMJ, ACCV2018

IEEE,

- Student Member, Graduate Student Member, Memeber — 1997 – Present
- Societies: Signal Processing, Communication, Computer

LANGUAGES

- English: Fluent (speaking, reading, writing).
- Italian: Mother Tongue.

SKILLS

- C, C++, Java, Python
  TEX, MATLAB, R
  Windows, Linux, Unix
  Android SDK, NDK
  Caffe, Theano, TensorFlow, Torch, PyTorch
  OPENCV, PCL, ROS, OpenNI SDK, OpenFramework
  Git, SVN

INTERESTS

- Research Interest
  - Computer Vision, 3D, Biometrics, Machine Learning, Deep Learning
  - Image Processing, Medical Image Analysis, Digital Signal Processing
  - Human Body Models for Computer Vision/Biomedical/Biometrics
- Special Interest
  - Coding Theory, Distributed Video Coding (DVC), Estimation and Detection

REFERENCES

- **Professor Gianfranco Doretto**
  Assistant Professor
  West Virginia University
  Evansdale dr., Morgantown, West Virginia 26506, USA
  gianfranco.doretto@mail.wvu.edu • +1 (304) 293-9133
- **Professor Donald Adjeroh**
  Professor & CS Graduate Coordinator
  West Virginia University
  Evansdale dr., Morgantown, West Virginia 26506, USA
  donald.adjeroh@mail.wvu.edu • +1 (304) 293-9681
- **Professor Xin Li**
  Professor
  West Virginia University
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