

Ethan Rudd

Ethan Rudd

Self Description

I am motivated and fast-paced with R&D experience in a wide range of areas of applied machine learning including computer vision, biometrics, and computer security and privacy. My passion is assisting researchers, developers, and business people alike in bringing their ideas into reality. I am very adaptive to the problem, language, or framework at hand, but in summary, I have a wide range of R&D experience working in Python, C/C++, Java, and Javascript, doing everything from experimental code to web and mobile development. I also have experience speeding up parallel code through multi-cpu, cluster, GPU, and Apache Spark running over HDFS.

Career Experience

- Fall 2014 – Present **Researcher**, *University of Colorado at Colorado Springs*, Vision and Security Technologies (VAST) Lab.
- Senior Ph.D. student in charge of the UCCS branch of the Intelligence Advanced Research Project Agency (IARPA) Janus face recognition pipeline. Developed pipeline, authored IARPA reports, and coordinated efforts with other Universities, most notably University of Maryland (UMD).
 - VAST Lab server administrator (> 400 cores).
- January 2015 – April 2015 **Invited Researcher**, *Google Inc.*, Advanced Technologies and Projects (ATAP).
- Worked with an inter-disciplinary team of experts in research, development, and security selected by Google Inc.'s Advanced Technologies and Projects (ATAP) group to prototype the first of its kind continuous authentication subsystem for a mobile device.
 - Assisted in the vision (face recognition) components, implementing learning algorithms across a Cloudera CDH cluster and on an Android device.
 - Assisted in the development of a customized parts-based face detector.
 - Developed a multi-modal fusion algorithm. Implemented a working prototype/demo on Android.
- May 2014–December 2014 **Graduate Intern Storage R&D**, *Hewlett-Packard*.
- Authored client and server-side code for the 3-PAR StoreServe Management Console (SSMC).
 - Authored unit tests using the Jasmine (JavaScript) and Selenium (Java) frameworks.
 - Taught Selenium training sessions.
- October 2012–December 2014 **Research and Development Engineer**, *Securics Inc.*
- Prototyped a U.S. Army Long Range Face Tracking and Recognition pipeline.
 - Developed a distributed Facial Attribute and Scar, Mark, and Tattoo Search Engine.
 - Performed internal R&D for improving commercial face recognition systems. Authored U.S. MIL-STD-498 software requirements specifications. Authored quarterly R&D reports to the U.S. military.

Education

- 2013–Present **Ph.D.**, *University of Colorado Colorado Springs*.
Doctorate of Philosophy in Computer Science (Expected Fall 2016)
GPA: 4.00/4.00
- 2012–2014 **M.S.**, *University of Colorado Colorado Springs*.
Masters of Science in Computer Science
GPA: 4.00/4.00
- 2008–2012 **BS.**, *Trinity University*, San Antonio, Texas.
Bachelors of Science in Physics
Minors: Computer Science, Mathematics.

Awards

- 2014 **Outstanding Graduate Student**, *University of Colorado at Colorado Springs School of Engineering and Applied Sciences (EAS)*.
- 2012 **Phi-Beta-Kappa**, *National Honor Society*.
- 2012 **Sigma Pi Sigma**, *National Physics Honor Society*.
- 2012 **Kappa Mu Epsilon**, *National Mathematics Honor Society*.

Research and Publications

- 2016 **IEEE Computer Vision and Pattern Recognition (CVPR) 2016 Biometrics Workshop Paper**, *CALIPER: Continuous Authentication Layered with Integrated PKI Encoding Recognition*, Available: <http://vast.uccs.edu/~erudd/publications/caliper.pdf>.
- 2016 **IEEE Computer Vision and Pattern Recognition (CVPR) 2016 Biometrics Workshop Paper**, *PARAPH: Presentation Attack Rejection by Analyzing Polarization Hypotheses*, Available: <http://vast.uccs.edu/~erudd/publications/paraph.pdf>.
- 2016 **IEEE Computer Vision and Pattern Recognition (CVPR) 2016 DeepVision Workshop Paper**, *Adversarial Diversity and Hard Positive Generation*, Available: <http://vast.uccs.edu/~erudd/publications/adversarial.pdf>.
- 2015 **IEEE Winter Applications of Computer Vision (WACV) Demo**, *Facial Attributes for Real Time Video*.
- 2013-2014 **M.S. Thesis**, *Pose Adaptive Features for Unconstrained Face Recognition*, Available: <http://vast.uccs.edu/~erudd/publications/ER-MS-Thesis.pdf>.
- 2014 **2014 IEEE Winter Applications of Computer Vision (WACV) Conference Paper**, *Exemplar Codes for Facial Attributes and Tattoo Recognition*, Exemplar Codes for Facial Attributes and Tattoo Recognition, Available: <http://metarecognition.com/exemplarcodes/ecodes-paper.pdf>.
- 2012 **American Physics Society Division of Atomic, Molecular, and Optical Physics**, *Monte Carlo Ground State Energy for Trapped Boson Systems*, Abstract: <http://meetings.aps.org/Meeting/DAMOP12/Session/Q1.175>.
- 2012 **Bachelors Thesis**, *Monte Carlo Ground State Energy Approximations for Trapped Boson Systems*, Available: <http://vast.uccs.edu/~erudd/publications/ER-Undergraduate-Thesis.pdf>.