

Jose Javier Gonzalez

Education

- 2017–2023 **Massachusetts Institute of Technology**, *Ph.D. Computer Science*.
- 6.867 Machine Learning
 - 6.869 Advances in Computer Vision
- 2012–2016 **U. Pontificia Comillas**, *B.S. Telematics Engineering*, 9.95/10 – Valedictorian.
- Operations Research – Optimal Placement of Cellular Communication Antennas
 - Advanced Digital Systems – 16-bit RISC Processor in VHDL
- 2015–2016 **University of Michigan**, *Exchange Computer Engineering*, 3.94/4.00.
- Information Retrieval - Diagnostic Classification of Prevalent Cardiovascular Diseases
 - Parallel Computing – Parallel Implementation of Interdependent Lindenmayer Systems

Work Experience

- 2017 **CERN**, *Openlab Summer Student*, Geneva, Switzerland.
- Developed C++ software to store and access genomic data using ROOT big data framework.
 - Benchmarked the tools using Python and performed statistical analysis over the parameter space, improving read speed by over 15 times.
- 2014–2015 **Institute for Research in Technology**, *Research Assistant*, Madrid, Spain.
- Development of applications with Google Glass using Android, Java and the Mirror API.
 - Design of a QR-Based system for people with different disabilities using Google Glass as a platform to interact. The system achieved a 87% precision capturing gestures.
- 2014 **Extreme Networks**, *Software Engineer*, New Hampshire, USA.
- Used Java to integrate several third-party modules to the *NetSight* network monitor.
 - Developed software filters for the Paloalto Firewall, reducing unwanted requests by 68%.

Research

- 2016 **Heart Sound Classification based on Temporal Alignment Techniques**,
Jose Javier Gonzalez, Cheng Phoo, Jenna Wiens, Computing in Cardiology 2016.
- Developed a Machine Learning classifier for Heart Sound Classification algorithm based on Temporal Alignment Techniques, MFCC frequency analysis and support vector machines.
 - Achieved a 82.4% accuracy (upper quartile) in the test data in the Physionet Challenge 2016.
- 2016 **A Simple Power Attack in the TwoFish Key Schedule**, *Bachelor Thesis*,
Jose Javier Gonzalez Ortiz, Kevin J. Compton, arXiv:1611.07109.
- Designed and implemented a SPA power attack on Twofish block cipher that unequivocally recover the secret key even under substantial amounts of noise.

Technical Skills

AI Python, Sklearn, Keras, Tensorflow, PyTorch
Systems C/C++, Java, Docker, Xen, Bash, Git, SQL
Hardware Assembly, Verilog, VLSI, Spice, Eagle

Languages

Spanish Native
English Proficient

Awards

- 2016 **Excellence in the Bachelor's Degree**, *U.P.Comillas*.
2012–2016 **Excellence Scholarship**, *County of Madrid*.
2015–2016 **University Honors**, *University of Michigan*.
2013 **Intl Mathematics Competition 2013**, Bronze Medal.

Interests

Soccer
Swimming
Reading