

Elliott Ivan Gurrola

2401 North Oregon St. #41
El Paso, TX. 79902

(915)345-2574
eigurrola@miners.utep.edu

Education

University of Texas at El Paso

- PhD Electrical Engineering GPA: 4.0 / 4.0
Expected Graduation Date: Fall 2015
- MS Computer Engineering GPA: 4.0 / 4.0
Graduation Date: Fall 2013
- B. S. Electrical Engineering, Honors, GPA: 4.0 / 4.0
Summa cum Laude, Fall 2011

Publications

- **E. Gurrola**, M. P. McGarry, Y. Luo and F. Effenberger, "*PON/xDSL Hybrid Access Networks*", Elsevier Optical Switching and Networking, to appear in 2014.
- M. P. McGarry and **E. Gurrola**, "*Invited Talk: FTTdp: ONU Complexity Reduction*", *Optical Fiber Communications Conference (OFC '14)*, San Francisco, California, March 2014.
- M. P. McGarry, Y. Luo, and **E. Gurrola**, "*On the Reduction of ONU Upstream Buffering for PON/xDSL Hybrid Access networks*", IEEE Globecom, Dec. 2013.
- **E. Gurrola**, M. P. McGarry, Y. Luo, N. Cheng, "*Downstream ONU Buffer Modeling for Fiber to the Drop Point*", Asia Communications and Photonics Conference (ACP), Nov. 2013.

Experience

Course Co-Instructor

University of Texas at El Paso, Electrical Engineering Department,

Spring 2015

- Currently co-instructing the Operating System Design course along with Professor Michael McGarry
- My tasks involve preparing lectures and supplemental instructional material on the topics of Process scheduling, synchronization and distributed systems

Fixed Networks Research Intern

Alcatel-Lucent, Bell Labs, NJ.

Summer 2014

- My role was to develop a discrete event simulator, based on OMNETPP, to simulate the behavior of a hybrid passive optical network
- I implemented the transmission convergence layer of ITU-T G.987.3: 10-Gigabit-capable passive optical networks (XGPON) and DOCSIS 3.0 protocols
- Worked in a very unsupervised environment with minimal guidance from mentor

Graduate Teacher Assistant,

University of Texas at El Paso, Electrical Engineering Department,

Fall 2012 - Present

- Served as the lab supervisor/grader for courses such as: Operating System Design and Computer Architecture
- My task involved: providing guidance to students in material related to the programming assignments, develop an automation script to grade student submissions, lecture the class whenever the professor is not available.

Graduate Research Assistant,

University of Texas at El Paso, Electrical Engineering Department,

Spring 2012 - Present

- Simulation modeling (discrete event simulation) of the XGPON and ITU-T G.993.2: Very high speed digital subscriber line transceivers (VDSL2) protocols
- Investigate mechanisms for silence suppression and ONU buffer reduction in XGPON/xDSL networks.
- Executed experimental plan and performed data analysis
- Developed python scripts to automate simulation and post processing file management and data visualization

Graduate Research Assistant

University of Texas at El Paso, W.M. Keck Center,

Summer 2013

- Coordinated a group of 10 undergraduate students to design electronics projects used in 3D fabrication technology.
- Designed and troubleshoot software, hardware and 3D models for each supervised project.

**Undergraduate Research Assistant,
Purdue University, Network for Computational Nanotechnology,**

Summer 2011

- Worked at the Network for Photovoltaic Technology Group
- Developed a MATLAB/Spice simulator to model solar panel behavior and internal losses.
- The project involved working with a faculty member and a graduate student who provided guidance in the project.

Awards and recognitions

- Texas Instruments Foundation Endowed Scholarship recipient, Fall 2012, Fall 2013
- College of Engineering Miner Hero Award for academic excellence and outstanding leadership, May 2013
- Outstanding Research Assistant, Networks and Communications Lab, Summer 2012 and Fall 2012.
- Outstanding Electrical Engineering Senior Award, December 2011
- Outstanding Undergraduate Teacher Assistant, Physics department, UTEP 2010
- Eta Kappa Nu, Electrical Engineering Honor's Society, 2010
- Academic Presidential Excellence Scholarship, UTEP 2008
- University Honors Degree Program, UTEP, 2008

Extracurricular Activities

- Provide guidance/consulting to senior Electrical Engineering students in their senior project designs
- Hosted an introductory course on Embedded System Design in order to help students with their senior projects. The course included the basics of programming, sensor interfacing and troubleshooting.
- Organize several freshmen level workshops that provide EE students with instruction on how to use equipment and software tools.
- Active member of the Institute of Electrical and Electronic Engineers, UTEP chapter and other student organizations on campus.

Community Service

- I have given several talks to graduating students from high school motivating them to seek a higher education degree, especially one in engineering.
- Back on my hometown, I have organized the "Physics Circus" event (a series of physics-related demonstrations) in an effort to promote Engineering and Physics to elementary and middle school students.
- Volunteer as a Science Fair judge.

Technical Skills

- Proficient software developer using C (thorough knowledge of data structures and algorithms).
- Familiarity with the concepts of object oriented software design in C++ (including inheritance and polymorphism).
- Proficient digital designer using the Verilog hardware description language.
- Proficient embedded system designer programming different microcontroller architectures, integrating a wide range of analog/digital sensors and PCB design.
- Experience with the Python scripting language, focused on task automation.
- Experience on Bluetooth Low Energy (Bluetooth 4.0)
- Experience using Linux OS
- Background in Digital Signal and Image Processing.

Behavioral Skills

- Comfortable speaking in public
- Group work and leadership skills
- Capable of working independently
- Highly motivated and organized
- Attentive to detail
- Fluent in both English and Spanish, knowledge of French and basic Japanese languages