Nicolas Gallardo

nicolasgallardo@ymail.com | 210.487.0259

EDUCATION

UNIVERSITY OF TEXAS AT SAN ANTONIO

MS in Electrical Engineering - Controls

Grad. Dec. 2016 | San Antonio,TX

Cum. GPA: 3.7

ROCHESTER INSTITUTE OF TECHNOLOGY

BS in Electrical Engineering - Robotics

Grad. May 2014 | Rochester, NY

JOHN JAY SCIENCE & ENGINEERING ACADEMY

Grad. May 2009 | San Antonio,TX

LINKS

Github:// **nicolasgallardo**

LinkedIn:// **nicolasgallardoEE**

COURSEWORK

GRADUATE

Machine Learning with Big Data • Digital Signal Processing • Intelligent Robotics• Discrete Time Control Systems• Linear Control Systems• Power Electronics• Computer Architecture• Power Systems Analysis• Engineering Programming

UNDERGRADUATE

Senior Design sponsored by Carnegie Robotics Lab• Advanced Programming in C++• Advanced Robotics• Robotic Systems with Lab• Principals of Robotics with Lab• Mechatronics• Control Systems with Lab• Introduction to Programming in C• Communication Systems with Lab• Computer Architecture with Lab• Digital Electronics with Lab• Analog Filter Design• Power Electronics with Lab•Electronics I & II •Circuits I & II

ACTIVITIES/SOCIETIES

ROS Industrial Training at SwRI
SA BEST Robotics Mentor
ACE Lab Summer Mentor
Berkshire HS Robotics Mentor
Capitol BEST Robotics Mentor
IEEE Student Member
UTSA Society of Hispanic Prof. Eng.
RIT Society of Hispanic Prof. Engineers
RIT Dean's List Recipient

EXPERIENCE

XENEX DISINFECTION SERVICES

Electrical Engineer I

December '16-July '18 | San Antonio, TX

- Developed autonomous motion capabilities for Xenex's germ zapping robot. Involved in all R & D Phases of the project. Produced engineering requirements from business requirements, developed high level system diagrams along with low level hardware schematics and firmware. Designed hardware in Altium and wrote system firmware in C++.
- Developed a hardware based industrial PIR module for user room exit detection. This system is a part of the user safety loop, thus redundancies and fail safes were implemented that protected the user from being exposed to harmful UV light.
- Led a team of in-house engineers and consultants (total of 8 multi-disciplined engineers) on a $1M Small Business Innovation Research (SBIR) Phase II grant. Grant Contract # 1R43NR016638-01
- Designed for production quantities and serviceability.
- Built rapport with local and global vendors. Worked with them to secure parts for both prototype and production quantities.
- Worked closely with local and global PCB fabs to get the design right the first time and actively mitigated fabrication issues along the way.
- Designed PCB's in Altium and developed firmware in C++.
- Rapid design of test fixtures.
- Extensive debugging, testing, and evaluation of electromechanical systems.
- Experience designing for IEC 60601 and IEC 61010
- Experience using Arena, an engineering and software design change tracking software.
- Experience maintaining code base in GitHub.
- Experience working in a fast-paced start-up environment.

ZELLER CORPORATION

Electrical Engineering Co-op

June '14-December '14 | Rochester, NY

- Responsible for designing and wiring electrical panels to perform various automated tasks.
- Worked in a ISO 9001 certified manufacturing facility

ROCHESTER INSTITUTE OF TECHNOLOGY

Technical Assistant for the Electrical Engineering Department

January '14-August '14 | Rochester, NY

- Solidified my knowledge of Digital Systems and Circuits I by leading the lab portion of these classes.
- Gained deep understanding of standard lab equipment (oscilloscope, signal generator, etc.) for data logging and circuit debugging.

GENERAL DYNAMICS ADVANCED INFORMATION SYSTEMS

Systems Engineering Co-op

August '13-January '14 | Pittsfield, MA

- Extensive documentation of test plans, procedures and results

ADVANCED MICRO DEVICES

Electrical Engineering Co-op in Foundry Operations

August '12-November '12 | Austin, TX

- Analyzed foundry data pertaining to computer processor performance in order to determine if a certain fabrication process was yielding improved performance.

RESEARCH

UTSA AUTONOMOUS CONTROL ENGINEERING LAB

Graduate Research Assistant

June '15–December '16 | San Antonio, TX

- Conducted research in creating large-scale robotic frameworks using Robot Operating System (ROS), OpenStack Cloud Computing, and a mix of UAV, UGV and UUV robots to perform various tasks such as formation control.
- Conducted Master's Thesis research in Assistive Robotics, specifically Smart Walker technology for the blind and elderly. The system used ROS to obtain and process point cloud data from a Xbox Kinect. The system then provided haptic feedback at each handle that guided the user safety through an unknown environment.
- Gained experience using Linux OS, C, C++, Python, Java, hardware design, implementation and testing.

PUBLICATIONS

1. Autonomous Decision Making for a Driver-less Car, 2017 System of Systems Engineering Conference
2. Formation Control Implementation Using Kobuki TurtleBots and Parrot Bebop Drone, 2016 World Automation Conference (WAC)
3. Design and Control Architecture of a 3D Printed Modular Snake Robot, 2016 WAC
4. Converter Design for Solar Powered Outdoor Mobile Robot, 2016 WAC
5. Cloud Robotics: A Software Architecture for Heterogeneous Large-Scale Autonomous Robots, 2016 WAC