

Justin Ritchie

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EDUCATION

B.S. Physics

Expected December 2008 Graduation

B.S. Electrical Engineering

The University of North Carolina at Charlotte, Charlotte, NC

Overall GPA: 3.62/4; Dean's List (Fall 2004, Fall 2006); Chancellor's List (Spring 2005, Fall 2005, Spring 2006)

RELEVANT COURSEWORK

Logic & System Design

Engineering Electromagnetics

Solid State Devices

CMOS and BJT Transistors

FPGAs and Reconfigurable Computing

Engineering Statistics

Modern Physics

Energy and Environmental Economics

Stellar Astrophysics

Classical Mechanics

Signals and Systems

Nuclear Physics

Circuits

Thermodynamics

Control Systems Theory

PROJECTS

Senior Design: Principle engineer for a team of four that successfully designed and built telescope that tracks Polaris as it moves its path through the sky, currently installed at Pisgah Astronomical Research Institute

Electrical Engineering Design 1: Served as team leader in a team of four to design and build a passive infrared light switch with variable power levels

Electrical Engineering Design 2: Team leader in a team of four to design and build an audio encoder

Intro to Electrical Engineering: Manufacture of a planar antenna in a clean room environment with a team of 5

Electronics: Design and Construction of a Discrete Operational Amplifier based on BJT Transistors

RELEVANT SKILLS

Computer Related Skills: AutoCAD 2000-2007, Office, Word, Excel, Publisher, PowerPoint, Visio, Project, Novell Network Admin, MATLAB, Mathematica, Xilinx, OrCad PSpice, C++, Computer Hardware, Microsoft Windows 9x/XP/Vista, OSX, Ubuntu, Troubleshooting, Linux System Implementation

Devices: Oscilloscope, Function Generator, Multimeter, Soldering Iron

Professional Certifications: COMPTIA Network + and A+

RELATED WORK EXPERIENCE

Pisgah Astronomical Research Institute Intern via NC Space Grant

April 2007-Current

PARI, Rosman, NC

- Implemented seismometer equipment and software to measure a 2.8 earthquake from anywhere in the world
- Provided in education opportunities for high school students on the topics of astronomy and physics by giving lectures on cosmology and stellar astrophysics
- Designed an electronic circuit which implemented TTL logic to switch a relay remotely over fiber by pressing a push button
- Gained familiarity and knowledge of passive and active electronic components including DigiKey's catalog
- Developed extensive familiarity with establishing and maintaining Linux systems via multiple distributions

Student Body President

May 2007-Current

UNC Charlotte, Charlotte, NC

- Responsible for multi-disciplinary projects in areas of institutional research and operations
- Directly managed a staff of 18
- Member of UNC Charlotte Board of Trustees
- Established student Green Fee which resulted in \$2 per year per student devoted to renewable energy projects
- Organized the UNC Charlotte Student Government Association Mecklenburg County Transit Tax Debate between local county commissioner chair and local radio personality by coordinating with multiple political student organizations
- Completed campus safety study which ranked UNC Charlotte's campus crime in relation to peer institutions using FBI's Clery Act campus crime database
- Spearheaded major website revamp and integrated technology into organization structure by individually working with members on personal technology habits which significantly enhanced productivity

Engineering Intern
NoI-Tec SE, Charlotte, NC

May 2006-August 2006

- Used Autodesk AutoCAD 2000 and 2007 to design control panel layouts, wiring diagrams, IO connections, and field wiring diagrams for over 7 separate projects through May 2006-August 2006
- Programmed Allen-Bradley PLCs
- Exposed to an engineering environment, including the creation of bills of materials, interaction with customers, and the relationship between an on-site shop and engineers
- Wired and built over 6 components for a lime injection control system including control panels and junction boxes

Service Department Intern
Hendrick BMW, Charlotte, NC

June 2005-August 2005

- Responsible for greeting customers, managing their expectations, and coordinating their appointment with their service advisor
- Gained extensive technical knowledge of the BMW product line

WORK EXPERIENCE

Senate President Pro Tempore

August 2005-April 2007

UNC Charlotte Student Government Association, Charlotte, NC

- Responsible for managing the daily actions of over 30 senators and directly overseeing their committee chairs
- Chaired and participated in meetings that used parliamentary procedure
- Sponsored and wrote over 30 pieces of legislation from 2004-2006
- Orchestrated a student vote to gauge interest in increase student fees in order to start a college football team at UNC Charlotte, the vote drew 8300 students, meaning that one out of every three students voted. The vote drew media attention from across the city and directly resulted in \$250,000 allocation by chancellor to committee for study

Women's Volleyball Assistant Scorekeeper

August 2005-Current

Charlotte Athletic Department, Charlotte, NC

- Team member of a Division 1 NCAA officiating crew to assist in the scorekeeping of official women's volleyball matches
- Served as official libero tracker, the libero is a special player that has unlimited substitutions and special rules

North Carolina House Page

June 2002

North Carolina General Assembly, Raleigh, NC

- Worked for 3 weeks as an NC House Page
- Attended committee meetings, general assembly meetings, and gained familiarity with government operations

AWARDS, HONORS, and MEMBERSHIP

Recipient, Donald Cline Astronomy Scholarship

Fall 2007-Spring 2009

Recipient, Edward Nicollian Scholarship in Electrical Engineering

Fall 2007 and Spring 2008

Recipient, FBI Honors Internship

Unable to Participate

Member, Sigma Pi Sigma Honor Society

Inducted Spring 2007

Senator, Representing the College of Engineering - UNC Charlotte Student Senate

August 2004-May 2005

Member, Student Organization Awards Selection Committee Member

April 2005

Member, IEEE

August 2004-Current

Member, Tennis Club

August 2004-May 2005

Most Dependable Senator Award, UNC Charlotte Student Senate

April 2006 and April 2007

Best Legislative Bill Award, UNC Charlotte Student Senate

April 2005 and 2006

PROFESSIONAL PRESENTATIONS

Manufacture of a Planar Antenna, Intro to Electrical Engineering Class

Spring 2005

Passive Infrared Light Switch, Engineering Design 1

Spring 2006

SGA Senate Platform, Student Government Legislative Branch

Spring 2006

Campus Safety Report Summary, Chancellors Council

Sept 2007