

## KRISTEN L. REBAND

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### SUMMARY

- Experienced with Embedded Systems.
- More than five years of research experience.
- IEEE Published Author
- Dale Carnegie Alum
- Senior project with Defense Technologies, Inc., which included Project Management

### EDUCATION

**University of North Carolina at Charlotte, Charlotte, NC.**

Bachelor of Science in Computer Engineering    May, 2008

#### Courses and Projects

- Microelectronics
- VHDL
- Advanced Embedded System
- Design of Intelligent Spacecraft
- Digital Signal Processing
- Quantum Mechanics
- Data Communication
- Computer Organization and Architecture
- JAVA
- Modern Physics
- Logic and Design II
- Signal and Systems
- Classical Mechanics
- Networking Theory II

### TECHNICAL SKILLS

- UML
- MySQL
- GlassFish
- SOA
- UNIX/LINUX
- JAVA
- Mentor
- SQL
- C++
- PSpice
- PowerPoint
- Assembly Language
- Expression Web 2
- Xilinx
- MATLAB
- ASP.NET
- HTML/XHTML
- C
- FrontPage
- MS Word
- Excel

### ADDITIONAL TRAINING

Dale Carnegie Course  
Effective Communications and Human Relations

February 2010-March 2010

### PROFESSIONAL EXPERIENCE

**Teledyne Brown Engineering**  
Huntsville, AL

July 2008-July 2010

#### Operations Controller

- I was a member of the Operations Controller (OC) team responsible for real-time planning and general management of the payload timeline for the International Space Station (ISS).
- As a part of my job I obtained an in-depth knowledge of long-term and short-term planning activities, and a general knowledge of all other elements of the ISS timeline. This included an understanding of ISS Power, Temperature Control, Data, and Crew Systems.
- I was required to learn, retain, and apply large amounts of information, including Hazard Controls, Payload Regulations, Flight Rules, and payload requirements. I used this information for impact assessment and troubleshooting of on board anomalies and logged nominal and off-nominal events real-time using FileMaker software.
- I reviewed crew procedures for operability and safety controls.

- On my own initiative I created aids for the on-console OC, including a handover sheet to prevent the loss of information during shift changes and a presentation identifying the Safety Switch locations on all US payload Racks.
- I helped maintain the OC team's website and facilitated computer set-up and training for new OC team members. I was also the OC representative to the Lab Training Complex Support Working Group. While in this position I collected requirements for a scaled model of the US Lab Module and helped to create it.

**National Aeronautics and Space Administration**  
Charlotte, NC

March 2006-May 2008

**Robotics Research Assistant**

- Under the mentoring of Dr. James Conrad, I designed and implemented multiple experiments to discover the effects of subzero temperatures on flexional wire.
- These experiments were part of an effort by Dr. Conrad to create a Stiquito robot for use in Mars exploration. The Stiquito robot is a walking insect-like device that has the ability to carry small payloads, such as sensors and actuators.
- I built many Stiquito robots and tested the leg frames of the robots at -200 degrees Celsius. The leg frames are run by flexional wires, which give the leg frames muscle-like propulsion.

**ACADEMIC**

- Successfully completed leadership training; worked with team to design and implement a playground for an elementary school in an underprivileged area, Leadership Academy
- Presented robotic research findings on the effects of a cold environment on flexional wire, State of North Carolina Undergraduate Research Symposium, Nov. 2006
- Presented robotic research findings on the beam bending theory, State of North Carolina Undergraduate Research Symposium, Nov. 2005
- Built robots and performed experimental research on beam bending for Dr. James Conrad, UNCC Computer Engineering Department, Independent Study
- Worked with a team to build a functional Inertial Measurement Unit for Defense Technologies, Inc. that provided ground based attitude (roll, pitch, yaw), time, and heading for an unmanned aircraft, Senior Design Project

**PROFESSIONAL PUBLICATION**

Robot Muscles in a Subzero Temperature Environment,  
Southeast Conference, IEEE Xplore

March 2010

**AWARDS**

- For exemplary perseverance in achieving academic success and for serving as a role model for all students, The William States Lee College of Engineering Hats Off! Award

**LEADERSHIP**

- Scribe for Theta Tau Professional Engineering Fraternity, May 2007 – May 2008
- Webmaster for Theta Tau Professional Engineering Fraternity, Dec. 2006 – May 2007

**PROFESSIONAL MEMBERSHIPS**

- Order of the Engineer
- Theta Tau Professional Engineering Fraternity
- IEEE Computer Society
- IEEE Aerospace and Electronic Systems Society
- IEEE Robotics and Automation Society