

# ROB RYDBERG

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## OBJECTIVE

ACQUIRE A FULL-TIME POSITION IN THE GREATER SEATTLE AREA TO DESIGN, BUILD, AND TEST SYSTEMS UTILIZING AND EXPANDING MY SKILLS AS A SOFTWARE AND HARDWARE ENGINEER.

## EDUCATION

Doctor of Philosophy – **Computer Engineering** (In Progress)  
Masters of Science – **Electrical Engineering** (May 2005)  
Emphasis in **Mathematics**  
Washington State University  
GPA: 3.76

Bachelor of Science – Computer Engineering  
Bachelor of Science – **Computer Science**  
Additional minors: Mathematics and Music  
Pacific Lutheran University (May 2003)  
GPA: 3.3

## WORK EXPERIENCE

### **Micron Technology, Inc.** – Summer 2007

CMOS Imaging: Product Engineering

Debugged & validated a research 1<sup>st</sup> silicon design. Worked as the interface between the lead engineer and the test platform support group, developing & implementing die tests. Worked with the hardware & software support group to debug a new architecture for the test hardware & software platform.

### **Sandia National Laboratories** – Summer 2005 & Summer 2006

ASIC/SoC Design Group

Developed a tool to extract timing analysis, clock tree, component connectivity, and physical locality to aid ASIC designers to more quickly locate & fix timing violations. Outlined a method to iteratively modify and test potential solutions in an automated fashion.

Established preprocessing test protocol for HDL designs to find problems before synthesis and improve readability and maintainability of projects.

Created an Excel macro to complete pin assignment and pad layout for +400-pin ASICs.

### **Yurcor** – February 2002 - February 2003

Contractor at **Intel Corporation** -- Server Management Firmware Evaluation

Transformed test suites to cover positive and negative testing of server management firmware systems.

Converted those test suites to full automation, **reducing testing time per platform from 2 weeks to 2 days.**

### **Washington State University** – January 2004 – Present

Teaching Assistant for the School of Electrical Engineering and Computer Science

EECS Computer Engineering TA of the Year (2007-2008)

Responsibilities: grading, lecturing, lab management, **project evaluation**, project design and resource acquisition

Courses: Intro to CS, Software Engineering, **Microprocessors**, Electromagnetics, VLSI Design, EE Senior Design

## RESEARCH TOPICS

1. Communication across multiple clock domains and between IP blocks in System-on-Chip design
2. Sub-threshold CMOS design and the impact on computer architecture (focus: power consumption & reliability)

## SKILLS

- Programming Languages: Assembly (PIC, Atmel), C, C++, Java, Perl, Ruby, Tcl/Tk, VB, VBA
- Modeling Languages: AMPL, MathCAD, MatLab, SPICE, VHDL
- CAD Tools: AVR Programmer, Cadence, Calibre, Eldo, ModelSim, NS2, Sentaurus, Visual Studio
- Modeling Classes: **algorithm design** & automata theory, **optimization theory & application**, graph theory, stochastic systems, linear system theory, abstract algebra
- Hardware Classes: **ASIC & digital systems**, VLSI systems, **SoC design & test**, sub-threshold logic & reliability, digital system architecture, asynchronous design, analog IC design
- Software Classes: computer networks, **microprocessors**, **operating systems**, programming language concepts
- Personal Attributes: Hardworking, takes initiative, positive attitude, dependable, task-oriented, self-motivated, quick study, fast-paced, flexible, adaptable, thrifty, trustworthy, helpful, experienced leader and team player
- Excellent project management & research ability, experience in public speaking, problem solving, long-range planning
- During graduate study, participated in the music department and graduate student government, **organizing a university-wide research exposition**, while maintaining busy teaching and research schedules

## PROFESSIONAL AND VOLUNTEER ORGANIZATIONS

ACM Student Member (7 years)

BSA - **Eagle Scout** and Assistant Scoutmaster [Troop 517 in Covington, WA] (10 years)

GPSA District Representative for the College of Engineering Architecture at WSU (3 years)

IEEE Member (10 years)

Personal interests include: backpacking, cooking, international travel, music(tuba & piano), and white-water rafting