

# RAZVAN LUPUSORU

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## OBJECTIVE

To obtain a software engineering position where I can utilize my expansive development experience and excellent problem solving skills to design and create robust, reliable, and innovative software solutions and contribute towards the growth of the organization.

## EDUCATION

**THE OHIO STATE UNIVERSITY** – Columbus, OH

Undergraduate GPA: 3.98

• *M.S. in Computer Science and Engineering*

June 2011

• Summa cum Laude *B.S. in Computer Science and Engineering* with Honors in Engineering

August 2010

Minor in Economics

## PROFESSIONAL EXPERIENCE

**DIEBOLD, INC.** – North Canton, OH ..... *Global Software Design Intern* ..... June 2009 – September 2009

- Improved turnaround times from build to delivery by packaging and testing (diagnosing for problems) daily builds thus enabling Software Quality Assurance team to quickly test new features in depth; Exposed to Agile development cycle.
- Enhanced methods of building and testing by writing C# applications/Perl scripts to automate manual tedious tasks.

**INTEL CORPORATION** – Hillsboro, OR ..... *Platform Application Engineering Intern* ..... June 2008 – September 2008

- Ported and customized Linux applications including GTK and all supporting libraries like Pango and Cairo, Python, and Elisa Media Center, for Intel Media Processor CE 3100 (embedded system on chip nicknamed ‘Canmore’).
- Resolved important customer and independent software vendor issues like adding wireless support to Canmore SDK.
- Created automated script for other developers to setup Ubuntu environment for Canmore development.
- Added GDL (Graphics Device Library) support to Pigment library via OpenGL ES output with DirectFB backend.

**ROAD OF LIFE** – Columbus, OH ..... *Network Administrator* ..... September 2006 – June 2008

- Performed computer repair and server administration with Windows Server 2003 running IIS (web server), Exchange (mail server), SharePoint (intranet website), VPN (virtual private network), Internet Gateway, Central Security.

**MIDWEST INDUSTRIAL** – Canton, OH ..... *Computer Repair Technician* ..... June 2002 – December 2007

- Performed computer diagnosis and repair on both computer hardware and software and assisted in deployment of network-wide applications. • Created a database for computer inventory system and laboratory work system.

## RESEARCH EXPERIENCE

**COMPUTER SCIENCE AND ENGINEERING DEPARTMENT AT OSU**

**UNDERGRADUATE RESEARCH, Distributed Systems** ..... September 2009 – August 2010

- Researched the application of lazy generalization to several snapshot algorithms across different architectures.
- Developed a discrete distributed systems simulation (done using C#) to test performance of snapshot algorithms.

**RESEARCH ASSISTANT, Network-Based Computing Laboratory** ..... September 2008 – December 2008

- Designed the initial setup of systematic testing using Buildbot for MVAPICH Project (MPI over Infiniband).

## SKILLS

- Programming experience with C, C++, Java, C# and .NET framework, and Python
  - Knowledge of GUI programming and design (Swing, Windows Forms, WPF and XAML, Qt), cross-platform development using Qt toolkit (C++) and Mono (C#), graphics programming (OpenGL, Ogre3D), XML and Schema, Regular Expressions, Functional Programming (LISP and Scheme), databases (SQL, document-oriented like MongoDB)
  - Understanding of operating systems concepts, networking protocols (TCP, UDP), and security protocols (RSA, AES, SSL)
  - Familiarity with parallel programming using OpenMP, MPI, and CUDA
  - Extensive experience with Windows and Linux; Proficient with command line and shell scripting
  - Effective communication and customer service skills; self-motivated; Ability to work towards long-term goals
- Electrical and Computer Engineering coursework:* • Electronic Devices and Control • Electrical Circuit Analysis
- Electrical Circuits Lab • Circuit Logic Design • Switching Circuits Lab • Computer Architecture • Microprocessor Lab
  - Computer Systems and Assembly Programming

**Academic Projects, Honors, and Activities** continued on next page...

## ACADEMIC PROJECTS (highlights)

### ARTIFICIAL INTELLIGENCE 2: ADVANCED TOPICS

*Autumn 2010 (in progress)*

- Working in a team of 2 to implement and test an adaptive stock trading system (using Python).
- Implementing a Sharpe Ratio optimizing strategy which uses a feed-forward neural network to actively reallocate portfolio proportions. Comparing the strategy with a genetic algorithm approach and static Sharpe Ratio method.

### DATABASE SYSTEMS

*Summer 2010*

- Designed and implemented a shopping cart solution in C# using .NET and SQL.

### VIDEO GAME DESIGN AND DEVELOPMENT PROJECT

*Spring 2010*

- Worked in a team of 5 to design and develop a 3D puzzle/platformer video game in C++ using Ogre3D Engine, Bullet Physics, MyGUI, and FMOD for a 9 week senior capstone project.
- Individual roles and responsibilities:
  - As one of the two responsible for game architecture, I followed good design principles to ensure expandable and maintainable software. A generalized mechanism allowed assigning and switching behaviors of objects dynamically.
  - Served as lead for user interface, scripting, and integration. Integrated Lua scripting via luabind which was used to dynamically change computer AI behavior at runtime.
  - Designed the models and layout of three of the nine levels in the game.
- Followed an Agile development approach as we completed a set of general requirements every two weeks and presented our progress from each timebox to the instructor and the class.
- Game was featured in onCampus Faculty Newspaper and in departmental news.

### SYSTEM SOFTWARE DESIGN, DEVELOPMENT, AND DOCUMENTATION PROJECT

*Winter 2009*

- Worked in a team of 5 to design and develop an Interpreter, Assembler, and Linking Loader for a low-level language for a fabricated RISC architecture. Project was done in Java using JUnit for testing and Javadoc for documentation.
- Software package contains an extensive user's manual and detailed design plan for programmer's reference and future maintainability. Used version tracking (svn) and Office Live Workspace to coordinate working in a group.
- Individual roles and responsibilities:
  - Served as the primary software architect. Led discussions on how to design the various software components.
  - Served as the project leader by organizing meetings, setting project deadlines, and deciding project features.

### INTERACTIVE COMPUTER GRAPHICS

*Winter 2009*

- Programmed several lab assignments using OpenGL. Projects were done in C, C++, and C# (using Tao framework).
- Implemented simple camera movement with panning, zooming, and orientation. Applied orthographic and perspective projection. Animated objects, applied textures, used gouraud and flat shading, and added lighting to scenes.

### PROFESSIONAL DEVELOPMENT IN JAVA

*Autumn 2008*

- Implemented 5-letter Jotto game in Java using Swing for GUI. Used the Model-View-Controller architectural pattern.

### CASE STUDIES IN COMPONENT-BASED SOFTWARE

*Spring 2008*

- Designed and developed a Tokenizer, a look-ahead Parser, and an Interpreter using a recursive descent algorithm for a context sensitive language. Project was done in Resolve/C++ using formal methods for specification.

### ROBOT DESIGN PROJECT

*Spring 2007*

- Worked in a team of 4 to build an autonomous robot running on embedded system using Motorola 68HC11 microcontroller. Project consisted of designing physical layout, building the robot, and programming its features.
- Individual roles and responsibilities:
  - Served as project manager by organizing meetings and setting project goals and deadlines.
  - Wrote the operational system in C: controlling mechanics, using sensors, error correction, and course adaptation.
- Robot received 3rd place overall at the Ohio State Fundamentals of Engineering for Honors Robot Competition and 1st Place for Most Consistent Robot (Perfect Qualification Rounds).

## HONORS

- Recipient of four Intel Digital Home Group Kudos Achievement Awards
- Graduated with Honors in Engineering designation which required minor degree outside of engineering, honors coursework, and a minimum of 100 hours of volunteer service
- Finalist for Student Employee of the Year (Top 5 Student Employees at The Ohio State University)
- CompTIA A+ (computer repair professional) and Network+ (networking professional) Certified

## ACTIVITIES

- Volunteer for Freegeek (setting up computers with open source software for the impoverished local community) and Habitat for Humanity (assisting in the construction process of houses)
- Volunteered to update North Canton Heritage Society website using Joomla content management system
- Tutor for elementary computer science course (Data Structures for Information Systems)