Ryan Gonzales

Software Developer | Computer Engineer

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EDUCATION

University of California, Irvine

B.S. Computer Science and Engineering
Expected June 2018
GPA: 3.41

SKILLS

Languages

Java, C++, C#, Python, System Verilog, MATLAB

Design/IDE Tools

Visual Studio, Eclipse, Cadence/Mentor Graphics

Office Tools

Microsoft Word, PowerPoint, Excel, SQL Server Management Studio, Team Foundation Server

COURSEWORK

Computer Science

Data Structure Implementation
Analysis of Algorithms
Principles of Operating Systems
Compilers & Interpreters
Computer Networks
Computer Vision
Machine Learning

Computer Engineering

Org. of Digital Computers
Digital Signal Processing
Embedded Systems Software
Electronic Devices & Circuits

HONORS

Dean's Honor List
March 2016 – March 2017,
September 2017 – Present

PROFESSIONAL EXPERIENCE

TechnipFMC, UCOS Products Group | Software Dev Intern
June 2017 – Present | Irvine, CA

- Developed code using C++ GUI libraries like MFC to create a robust HMI configuration software
- Identified and patched a software defect that allowed for the continued support of Windows 7/8, which would have been unsupported otherwise
- Debugged and improved code to efficiently parse XML sheets from a UDP sender, and package the parsed info to send to a SQL database

PROJECTS

Gesture Controlled Universal Remote
June 2018 – February 2018

- Created an application that reads hand gestures, predicts them according to a learned model, and sends an IR command to a TV
- Applied the image processing library EmguCV to calculate the convex hull and its defects to get the positions of the finger tips
- Trained a learner using K-nearest neighbors, and optimized our model to reduce validation error, which improves real-world performance

Multi-cycle ARM Processor
January 2017 – March 2017

- Worked with a team of engineers to design and simulate a pipelined ARM processor
- Verified block designs by writing test cases and viewing the waveforms in Mentor Graphics
- Synthesized the design to measure power and slack, and made improvements accordingly

CRUX Language Compiler and Interpreter
January 2017 – March 2017

- Built the scanner, parser, and symbol table according to predefined CRUX language specifications
- Created an abstract syntax tree (AST) to represent code structure, effectively taking care of problems like scope and type checking
- Generated MIPS assembly code by traversing the AST to build a text file of commands to run on the MIPS simulator, SPIM

Texture Quilting
February 2018

- Utilized texture quilting method of pasting images next to each other to create a cleaner blend between multiple tiles of the sample image
- Used a dynamic programming algorithm to calculate the lowest cost seam between two image tiles to create a smoother blend