Carl De Vries

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Education

Iowa State University College of Engineering | Ames, IA
Bachelor of Science in Aerospace Engineering
GPA: 3.84
Expected Graduation: May 2019

Des Moines Area Community College | Boone, IA
Associate of Arts Liberal Arts Pre-engineering w/ Honors
GPA: 3.76
January 2012 - December 2014

Work Experience

Software Engineering Co-op
Rockwell Collins | Cedar Rapids, IA *January 2017 – present*

- Verified functionality and DO-178B Level A compliance for 75 Simulink models upgraded from 2007a to 2016b
- Decreased build times via script enhancements by omitting unchanged models from the build process
- Developed graphical and logical flight display software components to meet customer requirements on time
- Eliminated a 30 minute environment setup task to update 200 files manually by writing a batch script
- Developed a script to parse and sort C code lint violations into CSV format leading to increased efficiency when analyzing multiple instances of similar violations

Application Developer I
Principal Financial Group | Des Moines, IA *May 2014 – June 2016*

- Developed software in an Agile environment to rapidly provide business critical features and application stability
- Administrated servers and established governance for IBM Operational Decision Management development
- Implemented an automated build, test, and deployment pipeline to increase efficiency for IBM ODM development
- Developed a Ruby script which decreased regression suite execution time from 90 minutes to less than 5 minutes
- Mentored an intern on Agile methodology, Java EE development, and how to evaluate business requirements

Skills

Languages: Python, C++, MATLAB, Simulink, Java, SQL
Methodologies and Technologies: Scaled Agile, Test Driven Development, Java EE, Git, SVN, Linux
Rockwell Technologies:

Honors Projects

Developing a Sounding Rocket Model (C++)

- Developed a multi-stage sounding rocket model based on a system of ordinary differential equations
- Analyzed single versus multistage motor configurations with flight data generated for the Black Brant V and IX

Predicting Reliable Landing Times and Initial Velocity for a Lander in a Two-Body System (C++)

- Implemented C++ solutions for the Euler method and 4^{th} Order Runge-Kutta differential equation solvers
- Conducted a parameter study to identify a curve fit to predict landing solutions for a lunar descent model

Analysis of Numerical Root-finding & Integration Methods (TI-BASIC)

- Presented a comparison of implementations for 4 root-finding methods and 3 numerical integration methods

Organizations

American Society for Engineering Education Model Design Competition *July 2014*

- Implemented a PID algorithm in C++ to navigate a vehicle about a 12 foot track 5 times in less than 60 seconds

NASA National Community College Aerospace Scholar *February 2014*

- Designed a Mars mission and 3D rover model to collect data on pit craters surrounding Arsia Mons

ISU Computer Science and Software Engineering Club *August 2016*
American Institute of Aeronautics and Astronautics *January 2015- September 2016*