Carl De Vries

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EDUCATION

Iowa State University College of Engineering | Ames, IA   Expected: May 2020
Bachelor of Science, Aerospace Engineering
GPA: 3.90

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

EXPERIENCE

Engineering Co-op
The Charles Stark Draper Laboratory, Inc. | Cambridge, MA   January 2018 - July 2018
- Developed guidance computer simulation software to meet milestones and performance requirements
- Verified performance characteristics between system integrated and standalone sensor models
- Generated system stability performance data after integrating a new system level sensor model
- Automated analysis and unit tests to verify deterministic sensor noise model implementation accuracy
- Presented simulation performance impacts and root causes which influenced project priorities

Software Engineering Co-op
Rockwell Collins | Cedar Rapids, IA   January 2017 - August 2017
- Verified functionality and DO-178B Level A compliance for 75 upgraded Simulink models (2007a - 2016b)
- Developed graphical and functional flight display software to meet customer requirements on time
- Decreased build times via script enhancements by omitting unchanged models from the build process
- 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 lint violations (MISRA, DO-178) to increase developer efficiency

Application Developer
Principal Financial Group | Des Moines, IA   May 2014 - June 2016
- Developed software in an Agile environment to provide business critical features and application stability
- Administrated servers and established program level governance for IBM ODM development
- Automated a build, test, and deployment pipeline to increase efficiency during IBM ODM development
- Decreased regression suite execution time from 90 minutes to less than 5 minutes via Ruby scripting
- Mentored an intern on Agile methodology, Java EE development, and business requirement evaluation

SKILLS

MATLAB, Simulink, Python, C/C++, Java, Scaled Agile, Test Driven Development, Git, SVN, Linux

PROJECTS

Developing a Sounding Rocket Model (C++)
- Generated Black Brant V and IX flight data and analyzed single versus multi-stage rocket performance
- Developed and tested a multi-stage sounding rocket model

Predicting Landing Times and Initial Velocities for a Lander in a Two-Body Sysem (C++)
- Implemented C++ solutions for the Euler method and 4th Order Runge-Kutta ODE solvers
- Conducted a parameter study to identify a curve fit to predict landing solutions for the model

Analysis of Numerical Root-finding and Integration Methods (TI-BASIC)
- Presented a comparison of implementations for 4 root-finding and 3 numerical integration methods

American Society fo Engineeirng Education Model Design Competition 2014 (C++)
- Implemented an algorithm to navigate a vehicle about a 12 foot track 5 times in less than 60 seconds

ORGANIZATIONS

ISU Spaceflight Operations Workshop   August 2018
Vermeer International Leadership Program   August 2018 - Present
NASA National Community College Aerospace Scholars   September 2013 - February 2014
Winchell Undergraduate Research Program   April 2014
DMACC Honors Program   January 2013 - December 2014