NICHOLAS GOOTE

nick.goote@gmail.com

SUMMARY

A well-rounded software developer with over 8 years of experience developing and maintaining embedded software solutions for aerospace and automotive customers. Extensive background in the full life-cycle of the software development process including design, development, test, debug, and maintenance.

WORK EXPERIENCE

Embedded Software Engineer at Gentex (May 2012 – present)

Design, implement, test, debug, and maintain embedded software for several rear view mirror products and OEMs.

- Integrated CAN communication, electrochromic dimming, lane departure warning, traffic sign recognition, Smartbeam, and TCP/IP software libraries into customer projects.
- Developed software that interfaces with a third party vision processing module, using the resulting information to provide lane keep assist, traffic sign recognition, and automatic high beam control.
- Participated in the development of an OSEK compliant operating system developed for internal projects.
- Developed software to support a new hardware system consisting of a dual core ARM Cortex A9 microcontroller with attached FPGA fabric, used for internal algorithm development and analysis.
    - Ethernet, FPGA programming, watchdog, and SPI microcontroller drivers.
    - Application code to support the processor, the FPGA, and algorithms running on target.
    - Bootloader.
    - ARM NEON optimizations.
- Developed specifications and software to support customer specific CAN diagnostics.
- Developed software to support displaying images and animations on small LCD screens.

Software Project Manager at Gentex (March 2011 – May 2012)

Manage the requirements, development, and test phases of embedded software for several rear view mirror products and OEMs.

- Worked with Opel, Jaguar, Land Rover, GM, and Nissan on Rear Camera Display and Smartbeam projects. Travelled to Japan, UK, and Mexico to support these activities.

Faculty at Calvin College (2010)

- Taught a Circuits Analysis and Electronics lab.

Technical Lead / Project Manager at DornerWorks (September 2008 – March 2011)

Manage the requirements, development, and test phases of embedded software for several products and OEMs.

- Led a team of up to 16 people working on GE Aviation's Software Common Operating Environment.
    - DO-178B Tool Qualification
    - DO-178B Problem Report Verification
    - DO-178B Structural Coverage Analysis of C code, Source to Object Analysis of C and Ada code, and Requirements Based Testing, focusing on the AFDX Ethernet Driver, Board Support Package, File System, health Monitor, and Bulk IO Drivers of the VxWorks Operating System.
- Led a team of up to 5 people doing requirements, development, and testing of software for Gentex' dimmable aircraft windows.

Embedded Systems Engineer at DornerWorks (April 2006 – September 2008)

Design, implement, test, debug, and maintain embedded software.

- Developed a DO-178B Board Support package for the VxWorks Operating System of GE Aviation's Software Common Operating Environment.
- Developed the hardware and software for an electronic fan speed controller and wireless remote control.

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Intern at Smiths Industries Aerospace (now GE Aviation) (March 2005 – March 2006)

- Used C, National Instruments TestStand, and LabWindows to write test software.

Technical Skills

Programming Languages

- *Proficient:* C
- *Familiar with:* Ruby, C++, X86/ARM assembly

Education

Bachelor of Science in Computer Science
Florida State University: 2012 – 2015 (expected)

Master of Science in Electrical and Computer Engineering – Digital and Computer Systems
Grand Valley State University: December 2010
Outstanding Graduate Student in Engineering, 2010

Bachelor of Science in Electrical and Computer Engineering
Minor in Mathematics
Calvin College: May 2006