Brian G. Henderson - Software Engineer

nextstatesystems.com

Skills and Experience

- Embedded Systems Design
- FPGA Design and Programming
- Digital Image and Signal Processing
- 2D / 3D Computer Vision Algorithms
- Linux / Windows System Programming
- Real-time Systems Programming
- Xilinx Zynq SoC Programming
- iOS / Swift
- Network Programming (TCP, UDP)
- Parallel Programming (OpenMP, Pthreads)
- Server-side Web Development (Django)
- Networked / Distributed Systems (ZeroMQ)
- Database Design and Programming (PostgreSQL)
- Mixed-Signal Electronics / PCB Layout
- C / C++ / C# / VHDL / MATLAB / LabVIEW / LabVIEW FPGA / Python / QT

Education

Master of Science in Computer Science (2016)

- Georgia Institute of Technology Atlanta, GA
  - Emphasis: Computing Systems

Master of Science in Electrical Engineering (2006)

- University of New Mexico Albuquerque, NM
  - Emphasis: Image and Signal Processing
  - Thesis: "A Novel Method for Extrinsic Self Calibration of Wide-Baseline Three-Dimensional Computer Vision Systems"

Bachelor of Science in Electrical Engineering (2003)

- New Mexico State University Las Cruces, NM
  - Emphasis: Mixed Signal Electronics Design

Work Experience

July 2016 – Present Next State Systems Albuquerque, NM

Owner / Chief Engineer

- Custom software and embedded systems development
- Development of turn-key systems incorporating electronic, firmware, and software components

January 2016 – Present Xpress Albuquerque, NM

CTO

- Architect of Xpress digital platform

June 2105 – May 2016 Skorpios Technologies Albuquerque, NM

Senior Staff Engineer

- Development of machine vision guided automated fiber-optic alignment systems
- Database systems for production material tracking and test reporting
- Test data analysis and parameter extraction for silicon photonics devices

Nov 2006 – June 2015 MZA Associates Corporation Albuquerque, NM

Electrical / Software Engineer

- Real-time digital control systems for high-performance tracking and adaptive optics applications using CPUs and FPGAs
- Heterogeneous networked computing systems with FPGA computing resources, real-time operating systems, and graphical user control consoles
- Implementation of image processing and control algorithms on CPUs and FPGAs
- Analog and digital circuit design, component selection, PCB layout, and troubleshooting

Aug 2004 – Nov 2006 Sandia National Laboratories Albuquerque, NM

Graduate Technical Intern

- Development, implementation, and testing of 3D computer vision algorithms for automatic calibration of multi-camera systems