

BEN BRIAN

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EDUCATION

- 2016 **Bachelor of Science in Electrical Engineering Technology – Magna Cum Laude**
Purdue University
- 2006 **Bachelor of Science in Computer Engineering – Magna Cum Laude**
University of Evansville

SKILLS

Programming Languages	Software	Hardware	Protocols
C/C++	Visual Studio	Arduino / Atmel	RS-485 / Modbus
C# / Java	Eagle CAD / AutoCAD	Microcontrollers	XML / JSON
Python	SolidWorks	Raspberry Pi / ARM	I ² C / SPI
Perl	Windows / Linux / MacOS	Analog Sensors	FTP / HTTP
JavaScript / HTML / CSS	MS Office / Project	Dell Servers / SAN / NAS	TCP / IP
Web Design	Hyper-V / VMWare	Control Systems / PLCs	SMB
Bash / PowerShell	Nagios	Lab/Test Equipment	Web Services

WORK EXPERIENCE

- 2013 - **Application Engineer / IT Manager – EnterScape, Jeffersonville IN**
- Present
- Integrates new and existing data sources for custom monitoring and control applications
 - Designs unique projects tailored to each client; develops embedded and web-based systems
 - Manages dozens of applications, including physical and virtual servers, for EnterScape and clients
 - Implements and maintains disaster recovery plans for Windows, Linux and SQL Server
- Research Assistant – University of Central Florida EECs Department, Orlando FL**
- Collaborated on new theory for observer design of positive systems (linear algebra, control theory)
 - Submitted paper to 2008 IEEE Conference on Decision and Control; peer reviewed IEEE papers
- Undergraduate Researcher – NSF Research Experience for Undergraduates at UCF, Orlando FL**
- Investigated new technique of mixed GPS-odometry navigation for autonomous ground vehicles
- University of Evansville, Evansville IN**
- **Tutor:** Assisted fellow students with computer science and engineering coursework
 - **Instructional Technician, Office of Technology Services:** Provided friendly, expert service by recording and solving campus technical problems at the help desk; promptly delivered AV equipment across campus

PROJECTS

- Enhanced Customer Alerts – EnterScape**
- Redesigned customer alert email system to include HTML formatting and embedded charts
- Global Office Dashboard – EnterScape**
- Designed web-based, real-time, 3D global data collection dashboard for EnterScape headquarters
- 0 A.D., An Open-source 3D Real-time Strategy Game – Wildfire Games**
- Developed across multiple platforms, programming languages, and compilers
 - Designed engine, gameplay and editor; debugged, reviewed patches, mentored, provided tech support
- “Pisces” Astrophotography System – Senior Project at Purdue University**
- Designed Arduino- and Raspberry Pi-controlled astrophotography system with web app
 - Designed MOSFET-based controllers for DC fan and thermoelectric cooler; integrated numerous sensors
- Temperature and Humidity Monitoring Strobe and Alerting System – EnterScape**
- Designed industrial environmental alarm system for microelectronics manufacturing facility
 - Designed multi-process and multithreaded software to poll Modbus devices and activate alerts

PROJECTS (continued)

Customer Dashboards – EnterScape

- Designed embedded Linux device to display on-site customer dashboards via HDMI outputs

Embedded Data Collectors – EnterScape

- Designed embedded Linux devices to collect tank level, thermal test and MFG test data for client

Water Controller Project – EnterScape

- Designed hybrid microcontroller-relay solution to control pump in production critical water cooling loop
- Industrial client realized a 1,000,000 gal or \$100,000 per year savings

Handheld Tetris Game – ECET 329 Advanced Microcontrollers Class at Purdue University

- Designed motion-controlled game with Arduino Micro, 10-DOF IMU, color LCD screen, speaker

Energy Data Collector Software – EnterScape

- Developed lightweight energy data collector software for legacy embedded Windows CE platform
- Delivered on time, while full-time student, and secured new client contract over competitor

Ongoing Contributions to Open Source Projects

- Supports OS community including: SDL, wxWidgets, NSClient++, Racktables, Highcharts

Research and Development – Contract Project at University of Central Florida

- Evaluated simulation facility for guidance, navigation and control, based on multicore Blackfin DSP

Web-Based Teleoperable Mobile Robot – Senior Team Project at University of Evansville

- Designed educational robotics platform using Pioneer DX base, VIA EPIA, mobile PSU, Gentoo Linux
- Wrote Java web app with Swing UI, streaming video from multiple cameras, custom joystick control

Compiler for C-like Project Language – CS 480 at University of Evansville

- Wrote optimizing compiler for subset of C language; passed all tests and produced fastest assembly

Stratego Board Game for TI Calculators – For fun

- Written in TI-BASIC for TI-89 to 92+, features AI opponent and saved games. Published on TiCalc.org

CERTIFICATIONS – MEMBERSHIPS

- **Certified SolidWorks Associate**
- **IEEE**

AWARDS – HONORS

- **Dean’s List, Purdue University 2012-2016**
- **Trustees Doctoral Fellowship, University of Central Florida 2006-2008**
- **Dean’s List, University of Evansville 2002-2006**

PUBLICATIONS

- 2010 **“Nonlinear positive observer design for positive dynamical systems”**
- Brian, B., Wang, J., and Qu, Z. *American Controls Conference* (2010, p. 6231-6237)
 - Also appeared in the journal *Dynamics of Continuous, Discrete and Impulsive Systems* (2010, Series B vol. 17, p. 797-823)