

Matthew J. Nitzken

ELECTRICAL & COMPUTER ENGINEER · BIOENGINEER · DESIGNER

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Accomplishments

- Responsible for managing code development and deployment to facilities for one of the largest shipping manufacturer's in the world.
- Created a high-speed communications system, to replace an existing system, that used half the memory of the initial system, improved processing efficiency by more than 200%, and offered more easily understandable diagnostics for faster troubleshooting.
- Helped lead a team effort to maintain proper code documentation and track development efforts using proper revision control.
- Strong programming fundamentals, with a passion to quickly adapt and learn new languages and libraries.
- Experience with both fast-paced Agile and Traditional software development work environments.

Skills

C++	C#	.Net Framework	Python
MATLAB	Interface Design	Data Mining	SQL

Education

University of Louisville

DOCTOR OF PHILOSOPHY, IN ELECTRICAL AND COMPUTER ENGINEERING

- Dissertation: Shape Analysis of the Human Brain

Louisville, Kentucky

2010-2015

University of Louisville

MASTERS OF ENGINEERING, IN BIOENGINEERING

- Thesis: Shape-Based Detection of Cortex Variability for More Accurate Discrimination between Autistic and Normal Brains

Louisville, Kentucky

2009-2010

University of Louisville

BACHELOR OF SCIENCE, IN BIOENGINEERING

- Capstone: Diagnosis of Kidney Transplant Success Using Image Segmentation And Intensity Analysis Techniques

Louisville, Kentucky

2005-2009

Experience

Alliant Technologies, LLC

LEAD SOFTWARE & CONTROLS ENGINEER

- Lead software developer for automated high-speed sorter systems.
- Responsible for leading software development and controls commissioning teams in system development and quality assurance testing for large scale projects.
- Created Ethernet/IP communications stack for high speed material handling applications.
- Large amounts of experience with troubleshooting complex production systems and rapidly implementing fixes.
- Experience interacting with customers in both affirmative and difficult situations.

Louisville, KY

January 2016 - Present

Alliant Technologies, LLC

SOFTWARE ENGINEER

- Developed computer and PLC applications for use in industrial material handling applications.
- Design, implementation, and usage of software and user interfaces for testing engineering applications using C and C#.
- Work on complete system design for material handling systems, including, sorters, singulators, and parcel merging controllers.
- Integration of hardware and electrical systems with mid- and upper-level computer software.

Louisville, KY

May 2015 - January 2016

Biolmaging Laboratory, University of Louisville

GRADUATE RESEARCH ASSISTANT AND SOFTWARE DEVELOPER

Louisville, KY

August 2010 - May 2015

- Large scale software development and design using C++, MATLAB, C#.
- Extensive work in data mining and classification techniques, focused on medical conditions.
- Team leader for development of shape, image, computer assisted diagnostic, and signal processing software.
- Conceived, designed, and created a full scale 3D mesh analysis software package.
- Researched diagnostic and detection techniques for autism, dyslexia, cancer, Alzheimer's, heart, and signal processing.
- Presented speeches and posters at national and international conferences

NeuroAtlas, LLC

FOUNDER AND LEAD SOFTWARE DEVELOPER

Louisville, KY

March 2013 - May 2015

- Responsible for software design, fundraising, community engagement, and management.
- Development of neurological diagnostic software for individuals with autism spectrum disorders.
- Participated in two health care entrepreneurial accelerator programs (XLerateHealth and LaunchIT in Louisville, KY).
- Developed a strong understanding of business practices and customer relations.

Neuroscience Collaborative Center, Frazier Rehab Institute

BIOMEDICAL ENGINEER

Louisville, KY

April 2008 - August 2010

- Explored large unstructured data sets, while assisting in development of pre-processing and analysis software.
- Engineered mechanical and software solutions, including training apparatus and data collection systems.
- Developed technology to assist para- and quadriplegic individuals in rehabilitation.
- Participated in laboratory testing and data quality control for human and animal subjects.

Honors & Awards

INTERNATIONAL

2013 **First Place**, MRBrainS Imaging Competition, MICCAI 2013

Nagoya, Japan

DOMESTIC

2014 **First Place**, Entrepreneurial Award KSTC State Tech. Competition

Louisville, KY

2014 **Second Place**, Engineering Research Competition

Louisville, KY

2014 **Outstanding Student in Electrical Engineering**, University of Louisville

Louisville, KY

2014 **Theobald Excellence Scholarship**, University of Louisville

Louisville, KY

2013 **Outstanding Student in Electrical Engineering**, University of Louisville

Louisville, KY

2013 **Novel Research Innovation Option Award**, University of Louisville

Louisville, KY

2013 **Novel Research Innovation License Award**, University of Louisville

Louisville, KY

2012 **First Place Entrepreneurial Award**, OVALS Entrepreneurial Competition

Louisville, KY

2012 **First Place and Best in Bioengineering**, Engineering Exposition

Louisville, KY

2011 **Third Place and Best in Bioengineering**, Engineering Exposition

Louisville, KY

2011 **Second Place**, Research Louisville

Louisville, KY

2010 **High Honors**, University of Louisville

Louisville, KY

2009 **Mickey R. Wilhelm Achievement Award**, University of Louisville

Louisville, KY

2005 **Century Scholarship**, University of Cincinnati

Cincinnati, OH

2005 **Cincinnati Scholarship**, University of Cincinnati

Cincinnati, OH

2005 **Wilburn-Shipman Scholarship**, University of Louisville

Louisville, KY

2005 **John Caddy Memorial Scholarship**, American Air Filter

Louisville, KY

2002 **Eagle Scout Rank**, Boy Scouts of America

Louisville, KY