

# Nick Klosterman

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EDUCATION    ♦ **Purdue University**, West Lafayette, IN  
Master of Science in Electrical Engineering, August 2010

♦ **University of Illinois at Urbana-Champaign**, Urbana, IL  
Bachelor of Science in Electrical Engineering, August 2001

WORK            ♦ **Research Assistant**, Purdue University August 2007 - July 2010

EXPERIENCE

- Updated weather visualization software with requested features from Purdue University's Earth & Atmospheric Sciences faculty.
- Implemented data color coding to allow for easier analysis of convection paths in simulation datasets.
- Implemented pop-up of 2D image slice of selected convection path.
- Co-developed education module that discussed pros, cons, and pitfalls associated with various software visualization techniques.
- Presented education module to Indiana Teachers as part of a workshop emphasizing computer visualization in the classroom.
- Presented Google Maps visualization exercise to Indiana High School students. The exercise demonstrated the geographic effect of a terrorist act in an urban and rural setting as part of a Homeland Security class.
- ♦ **Quality Engineer**, Siemens Energy and Automation, Bellefontaine, OH 2007
  - Analyzed customer's returned materials establishing root cause of failure.
  - Evaluated failures, identified solution, and implemented corrective action on manufacturing line.
  - Wrote technical documents reporting root cause failure of product to customer.
  - Conducted ongoing product reliability testing.
  - Implemented real time reliability plan to support product build up prior to plant shutdown.
  - Improved Visual Basic code for MS Access database to streamline data logging of samples and to make report generation easier.
- ♦ **Qualification and Integration Engineer**, IBM & JDS Uniphase, Rochester, MN 2001 - 2006
  - Performed optical to electrical and electrical to optical characterization tests on 1 Gb/s, 2 Gb/s, and 4 Gb/s fiber optic transceivers to prove compliance with Fibre Channel and Gigabit Ethernet standards. Tests included: Fiber coupled power, optical deterministic jitter, stressed receiver sensitivity, and mask margin.
  - Modified LabVIEW code to accommodate new products and additional tests.
  - Co-developed software to allow customer to interface with transceiver's onboard microprocessor. Provided live graph functionality as well as status notification of key onboard characteristics.

- Led review of product qualification report with lead engineers and product manager.
- Wrote software to automate qualification report generation from MS Access database.
- ◇ **Volunteer Research Assistant**, Mayo Clinic, Rochester, MN 2005
  - Developed software module for in house ANALYZE software suite allowing for analysis of Computed Tomography images.
  - Module performed kidney stone detection and sizing to determine health risk score for patient.
  - Volunteered time to learn more about commercial applications of image analysis.
- ◇ **Wright-Patterson Air Force Base**, Dayton OH 2000
  - Developed Java applet simulating unmanned autonomous vehicles.
  - Implemented flocking algorithm to control vehicle interaction.

- PROJECTS
- ◇ **All project source code viewable at <http://www.github.com/nickklosterman>**
  - ◇ **Foreclosure Sales Google Maps 2012**
    - Wrote software to parse foreclosure data from county websites and enter into private MySQL database.
    - Geocoded foreclosure data and plotted data using google maps api.
    - Developed front end to query database for properties of interest
    - Developing parsers and adding data to database for new counties of interest.
    - Foreclosure database updated weekly.
    - Viewable online at <http://www.djinnius.com/SheriffSales/>.
  - ◇ **Desktop Stock Tracker 2012**
    - Developed stock tracking software in Python to track performance of brokerage account.
    - Program calculates various metrics including annualized gain and capital gains taxes upon sale.
    - Program interfaces with Yahoo! Finance to obtain financial information.
  - ◇ **Backcountry.com Deal of the Day Tracker 2011**
    - Wrote software to track deals of the day appearing on Backcountry.com's four outdoor & sports deal websites and notify users when items of interest are featured.
    - Alerts based off of keyword matching are sent via text message or email.
    - Details of featured deals logged to a MySQL database.
    - Developed online front-end to allow for users to add their own notifications as well as to view past product details from the product database.
    - Viewable online at <http://www.djinnius.com/Deals>.
  - ◇ **Comic Converter for Kindle and Android 2012**
    - Program optimizes comic archives for viewing on Kindle's grayscale screen and for color Android devices.
    - Program utilizes Imagemagick libraries and can perform any Imagemagick function to optimize or refine images.
    - Program can be run recursively optimizing any comic archives found. Can delete original archive upon completion to minimize disk usage.
  - ◇ **Investor's Business Daily 100 Stock List Financial Visualization 2011**
    - Project analyzes advertised returns of Investor Business Daily 100 stock list versus what return a typical investor might experience.

- Stock movements and rankings visualized to show movement of stocks onto and off of stock list.
- Leveraged Prefuse visualization package for rapid construction of data visualization.

SKILLS      ◇ C++, Java, Bash scripting, MySQL, Visual Basic, HTML, Arduino uC, Python, Scheme, Git, SVN, SQLite

              ◇ MATLAB, LabVIEW, GNUPlot,  $\text{\LaTeX}$  2 $\epsilon$

              ◇ \*nix, Microsoft, Macintosh

              ◇ Digital Oscilloscope, Pattern Generator, Spectrum Analyzer

PUBLICATIONS   Arthur, D., Lasher-Trapp, S., Abdel-Haleem, A., Klosterman, N., Ebert, D., “A New Three-Dimensional Visualization System for Combining Aircraft and Radar Data and its Application to RICO Observations,” Proceedings, 15th International Conference on Clouds and Precipitation 2008

                      Maciejewski, M., Kim, S., King-Smith, D., Ostmo, K., Klosterman, N., Mikkilineni, A., Ebert, D., Delp, E., Collins, T., “Situational Awareness and Visual Analytics for Emergency Response and Training,” IEEE International Conference on Technologies for Homeland Security, 2008.

HOBBIES      ◇ Member Ghisallo Cycling Team 2011-2012

              ◇ Avid Triathlete and Cyclist - Achieved 1st in Age Group at Caesar’s Creek Triathlon 2011

              ◇ Private Pilot License holder and Aviation Enthusiast