

MATT TRZCINSKI

trzcinski.matt@gmail.com
(313) 686-2468
www.MattTrzcinski.com

SUMMARY OF QUALIFICATIONS

- Experienced developer (5+ years); application development, finance, R&D, statistics
- Strong analytics background (4+ years); scientific research and business metrics
- A people-person who enjoys helping others (7+ years); pedagogy and inter-departmental liaison

EDUCATION

Master of Arts - Applied Statistics 2015 Eastern Michigan University, Summa Cum Laude GPA: 3.97	Bachelor of Science – Mathematics 2011 Michigan State University GPA: 3.575
Associate of Science - Engineering/Physics 2012 Lansing Community College, Summa Cum Laude GPA: 3.80	General Associate 2007 Lansing Community College, Summa Cum Laude GPA: 3.77

SKILLS AND EXPERIENCE

Programming

- Python; Pyside/PyQt, NumPy, pandas, matplotlib, seaborn, pyplotgraph, Jupyter, psycopg2, Flask, packaging, pypi
- SAS, R, MATLAB
- RDBMS design, SQL, Postgres, Visual FoxPro
- VBA, VBScript, .NET, C#
- Emacs Lisp and Common Lisp
- Bash shell scripting
- C/C++
- HTML5 and CSS3; XML
- Git, Hg, and SVN; GitHub, GitLab, and BitBucket
- SDLC; Agile, Spiral, Waterfall
- Test driven development (TDD)
- Natural Language Processing (NLP)
- Threading; Multiprocessing

Software

- Jenkins CI/CD, Innosetup
- GNU/Linux (Arch, Debian, CentOS), Windows, Mainframe
- Command line interface (CLI); grep, xargs, etc.
- Doxygen documentation generator
- Kallithea SCM; Flyspray bug-tracker
- NGINX
- VirtualBox, QEMU/KVM/libvirt, Vagrant/Packer
- Free and Open Source Software (FOSS)

Statistical Analysis/Mathematical

- Linear and non-linear modeling including logistic, polynomial, step-wise, ridge, and lasso
- Multivariate statistics; multiple regression, general linear models, generalized linear models
- Calculus, linear algebra, and differential equations
- Statistical significance testing
- Decision trees and random forests
- Cluster analysis and classification
- Familiarity with various statistical distributions
- Time-series analysis
- Bayesian methods and maximum likelihood estimation
- Principal Component Analysis (PCA)
- Data transformations including Box-Cox
- Monte Carlo simulation

Miscellaneous

- **Graduate Research:** *Need of Transformation: Literature Review and Applications*
A comparison of common transformation techniques against the Box-Cox transformation with examples and Monte Carlo simulations in R
- **Certifications (non-current):** EPA Confidential Business Information (TSCA) clearance; Document Control Officer (DCO)

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DETAILED WORK HISTORY

Software Engineer / Computer Scientist

Aug. 2018 – Jul. 2020

Software Department, *SeaLandAire Technologies, Inc.*, Jackson, MI

- Developed desktop data analysis tool for external client; gathered and formalized requirements; provided time and cost estimates; followed Agile methods; delivered each sprint at or below cost
- Worked with electrical engineers to develop applications to assist with test and design
- Created a Python library for DataQ DI-1100 data collection device; wrote API based on command protocol; parsed binary output into NumPy array; generated real-time plot with pyqtgraph
- Created a Python library to convert Siglent 1000/2000X binary data to a Numpy array; generated plots with matplotlib
- Automated Excel via the COM with Python; developed library used to identify and update front-office related spreadsheets across the network; implemented to allow multiple processes
- Implemented an API documentation server connected to internal repository; used through a custom web interface or automated on commit
- Assisted IT server updates; installed CentOS 7/8; moved servers to new building
- Performed ad-hoc tasks; updated applications on request; assisted engineers in writing scripts; built engineer scripts into standalone applications; cleaned and analyzed data
- Maintained communication and goals through weekly stand-ups, code reviews, and peer programming sessions

Statistician

May 2016 – Aug. 2018

Advanced Analytics, *Battelle Memorial Institute*, Columbus, OH

- Performed statistical analyses for 27 EPA toxicology studies and reported findings; oversaw the generation of monthly intrastate hospital performance measures; peer reviewed analyses for quality assurance; completed ad hoc projects as requested
- Reduced run time of remote R modeling process from 8 days to 3 hours; used parallel processing
- Saved ~100 man hours of copying, pasting, and merging; automated table creation for 27 studies (500+ tables) using SAS, shell scripts, and Microsoft Word; improved integrity of data analysis
- Wrote Test Driven Development (TDD) framework for SAS; eliminated manual validation steps
- Re-factored legacy R and SAS code bases; reduced lines of code by 30%; maintained performance; improved readability
- Programmed standardized tools for SAS data imports; halved the number of manual adjustments required, halving the time spent on data cleaning
- Saved more than \$1,000 by using Free and Open Source Software whenever possible; avoided license fees and software purchases
- Designed, implemented, and maintained a PostgreSQL database hosted on a remote Linux server (CentOS 7) consisting of 13 tables and 266 fields
- Maintained excellent working relationships with various in-house groups; fostered teamwork and decreased turnaround times
- Lead the setup of an urgent client request for Linux-based document collaboration software (Brat Rapid Annotation Tool); gathered requirements and coordinated efforts; received a highly satisfied client response
- Created remote DokuWiki instance for procedural documentation; improved information accessibility, reliability, and collaboration
- Participated in two hirings; interviewed prospective candidates independently and as part of a committee

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Reporting Analyst

Sep. 2015 – May 2016

Financial Shared Services, *Kelly Services, Inc.*, Troy, MI (World Headquarters)

- Gathered user requirements for requested software updates; explained user requirements to developers; assisted implementation
- Tested software changes for function and usability; identified bugs; recommended fixes
- Documented and researched department procedures; turned paired tasks into individual tasks; provided resiliency against staffing changes; reduced on-boarding costs
- Developed PeopleSoft database dashboard SQL queries; converted a week-long request process into a same-day, on-demand service
- Conducted usability testing for VBA to .NET (C#) conversion pilot study
- Established rapport with various business groups; reduced the time spent gathering requirements from several days to less than a day

Processing / Technology Support

Nov. 2012 – Sep. 2015

Admissions & Recruiting, *Henry Ford College*, Dearborn, MI

- Processed 50-100 college applications daily; assisted applicants over the phone and in person; verified diploma accreditation
- Identified eligible student populations for recruiters; used Excel VBA, Access, and SQL; shortened process time and improved reliability
- Automated data entry validation checks; reduced a 1-2 hour manual process to a 30 second, single button click
- Diagrammed department data-flow; identified inefficiencies in the pipeline; used freeware and saved more than \$1,000 in software licensing fees
- Oversaw student workers
- Documented office procedures
- Served concurrent with graduate courses, teaching, grading, and tutoring; 32 hours per week

Teacher – Intermediate Algebra

Sep. 2014 – May 2015

Department of Mathematics, *Eastern Michigan University*, Ypsilanti, MI

- Taught for two semesters; 35 students per semester
- Created 21 lesson plans; emphasized student participation
- Developed and graded four tests, one take home project, and a final exam; all materials were revised for the second semester based on student feedback
- Provided comprehensive solutions for all assigned problems
- Wrote syllabus; included explicit policies, all problems for the semester, and a calendar corresponding to lesson/test schedule; adhered to the schedule
- Hosted online anonymous feedback form for students
- Held weekly office hours, separate from Tutor/Grader hours

Graduate Assistant – Tutor/Grader

Sep. 2013 – May 2015

Department of Mathematics, *Eastern Michigan University*, Ypsilanti, MI

- Tutored all undergraduate math and statistics courses offered by the college; 10 hours per week
- Graded assignments for 2 instructors each semester; ~60 students per semester for 4 semesters
- Coordinated with faculty to provide students consistent instruction; followed teacher expectations for students

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Tutor

Aug. 2006 – Dec. 2012

Tutoring Services, *Lansing Community College*, Lansing, MI

- Tutored all math courses offered by the college
- Met with 10 individual students on a regular, weekly basis; 10 hours per week
- Kept detailed logs of student interactions to secure grant funding
- Developed supplemental materials based on individual student needs
- Lead several professional development meetings; topics included effective communication and office procedure updates

Supplemental Instruction Leader

Aug. 2006 – Dec. 2012

Tutoring Services, *Lansing Community College*, Lansing, MI

- Separate position from Tutor; held concurrently
- Lead bi-weekly study groups of 15 people
- Collaborated with 2-4 instructors each semester; ~12 hours per week
- Tutored all math courses offered by the college
- Collected student progress data
- Increased participant performance by an average of one letter grade compared to students not attending study groups