

MATT TRZCINSKI

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www.MattTrzcinski.com
(313) 686-2468

OBJECTIVE

As developer, statistician, and teacher, I've witnessed how a simple script of code, documentation, or kind words can make a profound difference. Jobs exist to help people, our colleagues as much as our clients. I want to build systems that sustain others and empower them to do good.

EDUCATION

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

SKILLS AND EXPERIENCE

Programming

- Python; standard library, PySide/PyQt, pyqtgraph, pyopengl, PyInstaller, packaging, pypi, Conda, pip, NumPy, psycopg2, pandas, matplotlib, jupyter
- Test driven development (TDD)
- (Lisp '(Emacs Common Scheme))
- Experience and interest in C/C++; Qt, QML
- SQL, Postgres (psql), FoxPro, database design
- SAS, R, experience with MATLAB
- JavaScript (LeafletJS); HTML, CSS, XML, and JSON
- VBA, VBScript, Excel
- Shell; Bash and Windows batch scripting
- Git, Hg, and SVN; GitHub, GitLab, and BitBucket
- SDLC; Agile, Spiral, Waterfall, Kanban
- Experience with OpenGL, GSLS
- Concurrency; threading, multiprocessing

Software

- Jenkins CI/CD, Innosetup, Make
- GNU Linux (Arch, Debian, CentOS, Guix), Windows, Mainframe
- Command line interface (CLI); coreutils, vi, ssh
- Doxygen documentation generator
- Kallithea SCM, Flyspray bug-tracker, Jira, Slack
- NGINX
- VirtualBox, QEMU/KVM/libvirt, Vagrant/Packer
- Free and Open Source Software licensing
- LiDAR point cloud data format (LAS and LAZ)
- Experience with Docker and AWS

Mathematical/Statistical Studies

- Linear algebra, differential equations (ODE, PDE); logic and proofs
- Linear and non-linear modeling including logistic, polynomial, step-wise, ridge, and lasso
- Multivariate statistics; multiple regression, general linear models, generalized linear models
- 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)

DETAILED WORK HISTORY

Software Engineer

Ushr Auto, Inc., Livonia, MI

Nov. 2020 – Nov. 2022

- Created and maintained 3D visualization and analysis tools; 8 daily end-users
- Worked directly with in-house clients in a remote, agile environment; gathered requirements, defined goals, delivered releases
- Designed and implemented plugin platform; wrote API and documentation, enabled cross team code reuse and faster development
- Made tooling: map visualization libraries using QtWebEngine, LeafletJS, and ipyleaflet; drop-in, framework independent settings module; build and package pipeline; custom Qt widgets (status bar with embedded progress, message history, logging, and context manager; documentation viewer; dock and table widgets); coordinated with other engineers to accommodate their use-cases
- Developed algorithms to detect distance between LiDAR point cloud overlays
- Provided backup support on Docker deployments
- Facilitated sharing of data and analyses between groups; re-created remote server environment, updated analysis code, delivered results to interested parties
- Performed ad hoc tasks as requested

Software Engineer / Computer Scientist

SeaLandAire Technologies, Inc., Jackson, MI

Aug. 2018 – Jul. 2020

- 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 design and testing
- Created a Python library for DataQ DI-1100 data collection device; wrote API based on command protocol; parsed binary output into NumPy; generated real-time plots with pyqtgraph
- Created a Python library to convert Siglent 1000/2000X binary data to Numpy; generated plots with matplotlib
- Automated Excel via Windows 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 software 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

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Statistician

Battelle Memorial Institute, Columbus, OH

May 2016 – Aug. 2018

- Performed statistical analyses for 27 EPA toxicology studies; wrote findings reports
- Oversaw the generation of monthly intrastate hospital performance measures
- Peer reviewed analyses as part of the quality assurance process
- Reduced run time of remote R modeling process from 8 days to 3 hours; used multiprocessing
- 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 an 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
- Led 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

Reporting Analyst

Kelly Services, Inc., Troy, MI

Sep. 2015 – May 2016

- Worked within Financial Shared Services at the 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 processes 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

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Records Associate III

Henry Ford College, Dearborn, MI

Nov. 2012 – Sep. 2015

- Concurrent with grad school, teaching, grading, and tutoring; worked 32 hours per week
- Processed 50-100 college applications daily; assisted applicants over the phone and in person; verified diploma accreditation with institutions and national governing bodies
- 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 (yEd) and saved more than \$1,000 in software licensing fees
- Oversaw student workers
- Documented office procedures

Teacher – Intermediate Algebra

Eastern Michigan University, Ypsilanti, MI

Sep. 2014 – May 2015

- 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

Eastern Michigan University, Ypsilanti, MI

Sep. 2013 – May 2015

- 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

Tutor/Supplemental Instruction Leader

Lansing Community College, Lansing, MI

Aug. 2006 – Dec. 2012

- Separate position positions held concurrently; ~22 hours per week
- Worked with 10 students in weekly one-on-ones; led bi-weekly study groups of 15 people
- Tutored all math courses offered by the college; collaborated with 2-4 instructors per semester
- Led several professional development meetings; topics included effective communication and office procedure updates
- Developed supplemental materials based on individual student needs
- Kept detailed logs of student interactions to secure grant funding
- Increased participant performance on average by one letter grade compared to students not attending study groups