MARK SUSOL

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SOFTWARE ENGINEER
Data Munging • Business Intelligence • Data Visualization • Predictive Analytics

- Software Engineering skills in Javascript, PHP, Python, and Go under Test Driven Development (TDD).
- Internet and Network skills to include: HTML, XML, JSON, HTTP, SSL, TCP/IP.
- Relational Databases and Query authoring to include: Tenzing*, Dremel* (aka BigQuery), MySQL
- UNIX or GNU/Linux Systems Administration to include: BASH, gBash*.
- Big Data Processing Tools to include: Borgcron*, ETL Pipelines, MapReduce, Pipewrench* (PatchPanel)
- Statistical Software packages to include: R, SciPy, MatLab (Octave)
- Visualization Software packages/libraries to include: Aplos*, D3.js, HighCharts, Google Dashboards, Tableau
- Effective cross-discipline collaboration and communication with Project Managers, Engineers, and Stakeholders.
- Write and review technical documents, including design, development, and revision documents
- Independent and Passionate about learning new technologies, "self-driven" to achieve.

* Google Internal Technologies

PROFESSIONAL EXPERIENCE

Software Engineer
Cognizant Technology Solutions, Teaneck, NJ September 2013 – Present

gTech Engineering Business Intelligence at Google Global HQ (Mountain View, CA)
- Developed software in Javascript, Python and Go using Test Driven Development (TDD).
- Conversion of operational ETL pipeline from Python workflow to Pipewrench (PatchPanel) workflow.
- Added, Modified, or Deprecated multiple ETL processes to include MapReduce in Python and Go.
- Enhanced Third Party data through Exploratory Data Analysis (EDA) using Google search in ETL pipeline.
- Conversion of operational ETL binaries from Sawzall to Go lang (~10k lines of code).
- Build internal Business Intelligence tools using Google's App Engine integrated with Google Data Services.
- Developed visualization dashboards using Aplos and Google's Dashboard for ETL pipeline quality monitoring.
- Experienced with Google's internal bug tracking, code review, and version control software for each project.
- Worked directly with Third Party data vendors to establish FTP acquisition and ETL pipeline data importation.

Software Engineer
REI Systems, Sterling, VA   February 2012 – September 2013

Enterprise System Development Office (ESDO) at US Department of Homeland Security (DHS)
- Supporting the 13 federal agencies inclusive of DHS in Drupal Website-Content-Management-as-a-Service (WCMaaS)
- Deploying and maintaining Testing, Staging and Production environments on the CGI Federal Cloud.
- Experienced with continuous integration systems (Bamboo) and version control/management (Git).
- Onboarding new tenant technologies through linux server installation and configuration (Tomcat, MongoDB, Node.js)
- Daily operations and maintenance support of tenants through JIRA issue tracking software.
- Working remotely from REI office with travel to DHS HQ, Daily SCRUM and tenant/consultant meetings by phone.

GovDashboard, Software-as-a-Service (SaaS) for Business Intelligence Visualizations.
- Development of open source SaaS for REI's performance analysis tool extending the core Drupal CMS platform.
- Developed OOP software in Python for Predictive Analytics; Logistic & Multivariate Linear Regression Regression.
- Developed interactive data visualizations using AJAX, Drupal's restAPI, HighCharts and D3.js graphing libraries.
- Developed custom drupal module for FISMA security policies for REI's federal agency sites.
- Experienced with continuous integration systems (Hudson) and version control/management (Subversion).

Web Developer, Owner
Ultimate Creative Media, Frederick, MD   July 2003 – January 2012
- Founded a marketing business for the development of advertising media for small businesses.
- Designed business identities and media presence through a partnership with experienced Graphic Artist.
- Developed and maintained business websites for information, e-commerce, forums, and blogging.
- Provided website hosting services and maintenance for business websites including HTTPS.
- Deployed, administered and troubleshot Linux (SuSE) production server for large personal phpBB site.

Web Developer, Owner
UltimateDressage.com, Frederick, MD   January 2000 – December 2011
• Founded a phpBB forum for Dressage enthusiasts that has grown into one of the largest available social communities.
• Developed custom modifications allowing for subscriptions based registration and classified advertising.
• Social Media Banner Ad advertising deployed using OpenX ad server integrated with phpBB.
• Installation and remote maintenance of Linux based (SuSE) production server through collocation.

Production Manager
Patton Electronics, Gaithersburg, MD   August 2000 – July 2003
• Managed daily production in the Surface Mount Technology (SMT), supervising 10-12 employees over two shifts.
• Maintained manufacturing efficiency and high-quality standards through process improvements.
• Communicated daily with other work-centers in an effort to maintain or adjust production and delivery schedules.
• Update company computer systems with job status, relevant information and/or schedule changes for visualization.
• Implemented an intranet SMT parts inventory management system to increase accuracy of inventory availability.

PROFESSIONAL DEVELOPMENT

Meetup: Data Science for Sustainability, Big Data Developers Silicon Valley, Silicon Valley Big Data Science, 2014-2015
Meetup: Data Science DC, Data Visualization DC, Hadoop-DC, NOVA-Python, Statistical Programming DC, 2013
GitHub Repositories: Study and Development Projects https://github.com/msusol, 2013-2015
Coursera: **Regression Models**, Brian Caffo, PhD, Roger D. Peng, PhD, Jeff Leek, PhD, Johns Hopkins University, 2015
Coursera: **Getting and Cleaning Data**, Roger D. Peng, Jeff Leek, & Brian Caffo, Johns Hopkins University, 2014
Coursera: **Exploratory Data Analysis**, Roger D. Peng, Jeff Leek, & Brian Caffo, Johns Hopkins University, 2014
Coursera: **R Programming**, Roger D. Peng, Jeff Leek, & Brian Caffo, Johns Hopkins University, 2014
Coursera: **Algorithms: Design and Analysis, Part 1**, by Tim Roughgarden, Stanford University, 2014
Coursera: **Introduction to Data Science,** by Bill Howe, University of Washington, 2013
Coursera: **Machine Learning**, by Andrew Ng, Stanford University, 2013

VOLUNTEER EXPERIENCE

Web Developer, Board of Directors
CDCTA - 501(c)(3), Culpepper, VA   January 2000 – December 2005
• Responsible for the design and development of the organization's website using PHP & MySQL technologies.
• Developed an extensive custom CMS allowing each board member to control website content through user authentication.
• Additionally developed e-mail based marketing and e-newsletter program through the CMS programming.
• Awarded **"*Volunteer of the Year*"** in 2005 for these contributions to the organization.

EDUCATION

Masters of Science, Applied Physics 1995 : University of Maryland Baltimore County
Bachelor of Arts, Physics 1992 : University of Maryland Baltimore County

PUBLICATIONS

• Bakhshai A, Soika V, Susol MA, Takacs L. J Solid State Chem 2000;153:371.
• Takacs L, Susol MA. J Solid State Chem 1996;121:394.
• Takacs L, Susol MA. Mater Sci Forum 1996;225-227:559.
• Susol MA. MS thesis, Univ. Maryland, Baltimore County, 1995.