Justin Gosses

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Data Scientist

Thirteen years of experience as a data scientist, geoscientist, and software engineer. Has successfully delivered projects in the machine learning, data visualization, and software engineering spaces. Extensive record of generating new ideas, formulating strategy, and collaborating across organizational boundaries to deliver on objectives.

Computer Language, Database, Web-development & Machine-Learning Skills:

- **Language + Databases -** Python, JavaScript, R, Java, Bash, PostgreSQL, Neo4J, & AWS cloud system admin.
- **ML -** Scikit-learn, TensorFlow, Keras, Weka, PyTorch, Natural language processing and speech recognition using a variety of python libraries, including: CMUSphinx, DeepSpeech, NLTK, Gensim, & spaCy
- **Web –** Flask.py, Node.js, JQuery.js, Angular.js, & React.js, HTML, CSS, PHP, & WordPress
- **Data visualization & GIS -** d3.js, three.js, Tableau, AR/VR in Unity & JavaScript, & ESRI desktop certification

Professional History

S.A.I.C., Senior Data Scientist, (2018-current):

Half my time I am a data scientist supporting a NASA data Analytics lab building machine-learning and data visualization prototypes for partners across NASA. The other half I support the NASA Open-Innovation program, responsible for operations, new features, and compliance for api.nasa.gov, data.nasa.gov, & code.nasa.gov. I am technical manager for one software engineer, one junior data scientist, and one to two interns.

- Presented on leveraging machine-learning to create new metadata from existing metadata at AGU 2019. This natural language processing work is also described as example for other federal agencies on strategy.data.gov.
- Rapid response dashboard of NASA's COVID-19 risk exposure & telework capability for senior executives.
- Delivered speech-to-text projects with focus on reusable code & enabling effective vendor/model evaluations.
- Collaborated with intern on NLP model to disambiguate authors with same name across thousands of documents.
- Mentored intern to develop natural language processing model that can be given an acronym and surrounding context words and predict correct expansion of the acronym where multiple possible definitions exist.
- Co-administrator of NASA's internal & public GitHub instances. Webpage admin. AWS cloud system admin.

Valador Inc., Software Developer, (2016-2018):

Push adoption of new technologies in machine-learning and data visualization through consulting & proof-of-concept projects as a member of the NASA OCIO Technology & Data Div. Data Analytics lab.

- Created interactive visualization to show how NASA's strategic goals and objectives map to spending.
- Visualized aggregate & device specific patterns in network traffic from an Internet of Things WIFI network

BP Exploration and Production, Geologist (2006-2015) & intern (2005):

Worked in multidisciplinary teams to analyze data, make predictions, communicate results, and enable decisions.

- Taught geologists, engineers, and other disciplines geology for 4 years in classroom and field setting.
- Predicted fluid connectivity in gas field development leveraging multiple linear regression and neural networks
- Predicted well-log lithology using machine-learning methods, XGBoost.
- Applied geostatistics in 3D model simulations of fluid flow & resource size used in billion-dollar investment decision.

Recent Talks, Open-Source Software, and Community Leadership Roles Outside Job Duties

- Co-lead of Houston Data Visualization Meetup.
- Developed *Wellioviz*, open-source JavaScript library for visualization of well logs, supported by a start-up.
- Created *Predictatops*, open-source Python project for applying machine-learning to chronostratigraphic well log surface correlation, and presented it at the 2019 American Assoc. of Petroleum Geologists Annual Meeting.
- Rice Data Sci. Conf. Talk - "*Practical Considerations for Data Science Consulting in a Large Organization*"

Education

Masters of Science, Geoscience, 3.7 GPA – 2006 – University of Wisconsin – Madison
Bachelors of Science, Geoscience, Honors, – 2004 – Franklin & Marshall College, Pennsylvania