

# Joshua Grant

Data Engineer

## 👤 contact

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## 🎯 objective

to take theories, ideas, and experiments and turn them into production-scalable solutions

## </> development

|             |           |
|-------------|-----------|
| Bash:       | ■ ■ ■ ■ ■ |
| Docker:     | ■ ■ ■ ■ ■ |
| HTML:       | ■ ■ ■ ■ ■ |
| JavaScript: | ■ ■ ■ ■ ■ |
| LaTeX:      | ■ ■ ■ ■ ■ |
| Perl:       | ■ ■ ■ ■ ■ |
| PHP:        | ■ ■ ■ ■ ■ |
| Python:     | ■ ■ ■ ■ ■ |
| R:          | ■ ■ ■ ■ ■ |
| SQL:        | ■ ■ ■ ■ ■ |

## 🍷 flavors

|             |            |               |
|-------------|------------|---------------|
| R:          | data.table | shiny         |
|             | tidyverse  | vegan         |
|             | testthat   | devtools      |
|             | DBI        | leaflet       |
|             | httr       | ggplot2       |
| Python:     | pandas     | beautifulsoup |
|             | PIL        | xdgboost      |
|             | osgeo      | rasterstats   |
| SQL/DB:     | MySQL      | PostgreSQL    |
|             | MongoDB    | Hadoop        |
|             | SQLite     | Snowflake     |
| LaTeX:      | tikz       | fancyhdr      |
|             | tables     | booktabs      |
| JavaScript: | node.js    | angular.js    |
|             | vue.js     | jQuery        |

## 📊 Statistics

ANOVA  
Linear Regression  
PCA/PCoA  
Markov Chain  
Clustering  
Exploratory Data Analysis

## Experience

### Data Scientist Subcontractor

Oak Ridge National Laboratory, Oak Ridge, TN 2018 — Present

- Automating data ingestion of the WSTAMP webapp via the use of R, Python, Airflow, and Docker
- Authoring an R package to unify geography between online data APIs

### Owner & Contractor-For-Hire

Specrabella, Knoxville, TN 2018 — 2018

- Designing, developing, and deploying an interactive energy informatics web application that provides real-time calculation from machine learning derived models
- Consulting with clients on ground-up web application architecture, database and visualization needs
- Developed data ingestion methods using cURL, PHP, and R to scrape energy data from the web
- Streamlined training and development procedures using ansible, vagrant, PHP, and BASH

### Bioinformatician, Project Manager, & Technical Sales Representative

Microbial Insights, Knoxville, TN 2016 — 2018

- Established an automated pipeline using R, MySQL, Python, and Bash for NGS analysis, along with intranet website control written in JavaScript and Shiny
- Automated client-bound statistical calculations such as linear models, ANOVA, SOMs, clustering, PCA, and PCoA
- Developed an ETL customer data visualization tool using R, PHP, JQuery, and MySQL to view qPCR results in the context of other samples' and selected parameters
- Optimized data delivery to clients via a custom R package and local shiny applications to quickly generate LaTeX PDF reports
- Constructed, populated, and maintained an intranet wiki based using PostgreSQL and PHP to aid in project management and customer service

### Graduate Research Assistant, Dr. Neal Stewart's Plant Biotechnology Lab

University of Tennessee, Knoxville, TN 2014 — 2016

- Summarized statistical findings of cell suspensions using linear models, ANOVA, and PCA
- Evaluated suspension cultures via chemical and spectral processes for lignin formation and statistically analyzed and summarized my findings for inclusion in DOE reports
- Collaborated on a novel single cell suspension and cryopreservation robotic system

### Laboratory Assistant, Dr. Neal Stewart's Plant Biotechnology Lab

University of Tennessee, Knoxville, TN 2012 — 2014

- Developed automated statistical methodology for screening of lignin content and imaging of cell characteristics both *in vivo* and *in vitro*
- Extracted genomes from NCBI, cleaned and normalized the data, and performed exploratory data analysis

## Education

### Master of Science in Plant Sciences — Plant Molecular Genetics

University of Tennessee — Knoxville, TN — Spring 2017 — GPA: 3.72/4.0

### Bachelor of Science in Plant Sciences — Biotechnology

University of Tennessee — Knoxville, TN — Spring 2014 — GPA: 3.74/4.0

Magna Cum Laude