

Andrew Ingalls

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## WORK EXPERIENCE

### Associate Scientist II

*Stowers Institute for Medical Research*

Kansas City, MO

July 2018 - Present

#### Creating Business Value and Cutting Costs through Programming and Data

- Reduced employee workload by 100+ hours per year through the creation of an automated time series reporting tool using Python, Linux, Postgresql, Airflow, and PowerBi
- Developed an elution method for analyzing stress using waterborne cortisol and linear regression
- Created a PowerBI dashboard to track daily breeding data which resulted in a facility-wide fecundity improvement of 215%
- Reduced employee report crafting by 60+ hours per year by developing modular queries in SQL
- Decreased lab specimen feeding costs by ~40% using polynomial regression modeling of baseline characteristics with scikit-learn
- Improved water quality procedures through descriptive analysis of historic data, reducing employee workload by 300+ hours

#### Setting People and Community up for Success with Process Improvement and Documentation

- Managed daily operation of facility and projects through scrum and agile methodology
- Facilitated cross-functionally between labs and core science departments to enhance research objectives and outcomes
- Spearheaded an overhaul of the training system and created over 50 new training documents, which resulted in a direct increase in training opportunities and mentorship for 7 employees
- Used Microsoft PowerApps to facilitate breeding requests and protocol tracking for lab members
- Co-authored 3 scientific books focused on model organism research

### Chief Operations Officer & Chief Research Officer

*Trifecta Ecosystems, Inc.*

Meriden, CT

June 2016 -2018

- Oversaw finances, inventory, and company projections, including allocation of over \$250,000 in annual operating costs for an 8,400 sqft. facility
- Managed 4 employees in the operations of a 4,000 sqft. indoor farm and R&D of core products
- Secured \$500,000 in first-round investment from Connecticut Regional Water Authority
- Engineered 25+ recirculating aquaponics systems including a 3,000 sqft. facility worth over \$150,000
- Created in-situ sensor suite to provide real time monitoring and time-series analysis of water quality.
- Negotiated a partnership to rear *Ictalurus punctatus* fry for the facility, reducing supply cost by 80%

### Environmental Geologist

*Golder Associates, Inc.*

Manchester, NH

November 2014 - 2016

- Managed 1-5 field teams of five employees to ensure client goals and timelines were achieved for water quality sampling and analysis

### Graduate Teaching Assistant

*Kansas State University*

Manhattan, KS

June 2013 - 2014

- Taught 4 physics modules, each 3-4 weeks long, to a class of 30 high-school students
  - Mentored a class of 30 high-school students weekly in STEM-related career paths
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## PROJECTS

### Dungeons & Dragons Monster Stat Block Generator

- Scraped over 300 monster data entries using Selenium; wrangled complex data features
- Trained and deployed MLP neural network with 85% accuracy using Keras to generate a balanced monster stat block for inexperienced DMs
- *Technologies Used:* Python, Selenium, Pandas, Numpy, Wordcloud, Scikit-learn, Tensorflow, Keras, Dash, Docker, AWS

### World Agricultural Analysis Dashboard

- Using python requests library, pulled json data from World Bank APIs for data wrangling in pandas
  - Built multi-page flask dashboard using plotly for visualizations to answer questions regarding population, land-use, economics, and larger world issues since the start of the green revolution
  - Deployed app using Heroku
  - *Technologies Used:* Python, Pandas, Numpy, Plotly, Flask, Heroku
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## TECHNICAL SKILLS & PROFICIENCIES

**Programming:** Python (Numpy, Pandas, Scikit-learn, Tensorflow, Keras, Dash, Flask, Matplotlib, Seaborn, Plotly, BeautifulSoup, Selenium), R Programming (tidyverse, plotly, knitr), SQL (MySQL, PostgreSQL), HTML, CSS, JQuery, Linux, Git

**Other Technologies:** PowerBI, AWS, Airflow, Heroku

**Statistics:** A/B Testing, Hypothesis Testing, Regression, Descriptive, Bayesian

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## EDUCATION

**Master of Science**, Geology, *Kansas State University*, 2014

**Bachelor of Science**, Environmental Science, *Northeastern University*, 2012

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## CERTIFICATIONS

**R Programming A-Z**, *Udemy*, 2019

**Advanced R Programming**, *Udemy*, 2022

**IBM Data Science Professional Certificate**, *Coursera*, 2022

**Intro to Linux**, *Stowers Institute*, 2022