COLIN MIDDLETON, MS
Data Scientist

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PROFESSIONAL SUMMARY

Recent Eastern Washington University graduate with an MS in Applied Mathematics. Completed thesis project on predicting likelihood of homelessness based on an individual's utility billing history. Strong background in applied mathematics and statistics with practical experience in data exploration, manipulation, analysis, and prediction. Seeking to launch career in the innovative and data rich environment of Hudson Data.

SKILLS

Applied Mathematics | Statistics | Machine Learning

R | Java | SQL | Jupyter Notebooks | GitHub | LaTeX

Python: pandas numpy statsmodels scikit-learn tensorflow matplotlib seaborn

EDUCATION

Sep 2019 – Jun 2021	**Applied Mathematics, MS**	**Eastern Washington University**
	• GPA: 4.0	
	• Total Credits: 79	

Sep 2013 – Dec 2017	**Mathematics, BS**	**Western Washington University**
	• GPA: 3.5	
	• Minors: Honors, Chemistry	
	• Total Credits: 211	

HONORS AND AWARDS

2021	**Outstanding Graduate**	**Eastern Washington University**
2021	**Graduate Service Appointment**	**Eastern Washington University**
2015	**Math Fellowship**	**Western Washington University**
2013	**Presidential Scholarship**	**Western Washington University**

PROJECTS

Dec 2021

Grades vs Student Characteristic   **Personal Project**

- Used an ANOVA test to determine if there is a significant difference in grades between groups of students where groups are based on chosen characteristic such as race or neighborhood.

- User-friendly web interface.

- Automatically performs normality and skedasticity tests.

- (Python: Streamlit)

- `https://github.com/middlec000/grades_vs_student_characteristic`

Jan 2021 – Mar 2021

Academic Paper Clustering by Topic   **Big Data Analytics Class Project**

- Collaborated on customized K-Means model to cluster text documents into groups by topic using bag-of-words TF-IDF representation and custom dot product distance metric.

- Custom output with intelligible group themes.

- Currently developing hierarchical (agglomerative) version for publication to PyPi.

- (Python)

- `https://github.com/middlec000/fhdc`

Jun 2020 – Jun 2021

Homelessness Prediction   **Spokane Predictive Analytics**

- Predicted risk of experiencing homelessness based on monthly customer utility payment data.

- Used Linear Regression, Logistic Regression, Cox Proportional Hazards, and LSTM models.

- Joined, filtered data and engineered new features.

- Pending publication.

- (Python + JupyterLab)

- `https://github.com/middlec000/SPA_predict_homelessness`

2017

Traffic Prediction Senior Project   **Whatcom Council of Governments**

- Predicted traffic flow arriving at the US / Canadian border crossing based on upflow traffic sensors.

- Employed averaging, PCA, and speed + distance ratio methods.

- (Excel)

WORK EXPERIENCE

Jan 2021 – Current

Architectural Drafter   **Alison Miller Architect**

- Draft architectural drawings using AutoCAD LT.
- Site measure existing building for remodel.
- Use Dropbox to share files.

Oct 2018 – Dec 2021

Architectural Drafter   **Brooks Middleton Architect**

- Draft architectural drawings using AutoCAD LT.
- Make design adjustments and suggestions.
- Research building code and construction product specifications.

Sep 2020 – Jun 2021

Graduate Service Appointee   **Eastern Washington University**

- Provided feedback and suggestions to students about assignments.
- Provided feedback to professors about their students' progress.
- Taught two live remote lessons - linear algebra.

Sep 2019 – Sep 2020

Teachers Assistant   **Eastern Washington University**

- Provided feedback and suggestions to students about assignments.
- Provided feedback to professors about their students' progress.

Nov 2018 – May 2019

Architectural Drafter   **Beacon Rock Architecture Group**

- Drafted architectural drawings using AutoCAD LT.
- Researched building code.
- Used Dropbox to share files.

Jul 2016 – Aug 2016

R & D Intern   **Energy Storage Systems**

- Assisted with battery testing.
- Helped fabricate and improve a system for evaporation and dissolution of gasses in a liquid.

PUBLICATIONS

In Progress

Prediction of Homelessness Risk Based on Utility Payment History   **Eastern Washington University Thesis**

- Advisor: Dr. Andrew Oster
- Paper based on Homelessness Prediction project - see Projects.