

# BESS HAGAN

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## SUMMARY

Computer Science graduate with strong foundations in data analysis, Python, Excel, and SQL. Experienced in building data pipelines, performing exploratory data analysis, and translating raw data into actionable insights through academic research and applied projects. Seeking entry-level data analyst or analytics-focused roles.

## EDUCATION

### Bachelor of Arts in Computer Science, *Minor in Data Analytics*

12/2025

Southwestern University, Georgetown, TX

GPA: 4.0, *Summa Cum Laude*

- **Relevant Coursework:** Data Analytics, Database Management, Machine Learning, Algorithms

### Associate of Science in Computer Science

05/2023

Temple College, Temple, TX

GPA: 4.0

## TECHNICAL SKILLS

**Programming & Query Languages:** Python, SQL, R

**Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Excel (Pivot Tables, Dashboards), Exploratory Data Analysis (EDA), Statistical Analysis, Hypothesis Testing

**Databases & Tools:** PostgreSQL, pgAdmin, Jupyter Notebook, Anaconda, GitHub, VS Code

**Machine Learning (Applied):** Linear & Logistic Regression, Decision Trees, KNN, K-Means Clustering, scikit-learn, PyTorch

## EXPERIENCE

### Student Researcher

05/2024 – 08/2024

DREU Program, INVITE Institute, University of Illinois Urbana-Champaign, Champaign, IL

- Built a SQL-to-Python data pipeline to extract, transform, and analyze student interaction logs from a database backed virtual learning environment.
- Identified and diagnosed data quality and logging issues between the application and database layers, collaborating with developers to improve data consistency and reliability.
- Developed Python scripts to compute and summarize student interaction metrics in support of statistical analysis of engagement and persistence.

### Student Researcher, SURF 2025 (Procedural Content Generation)

05/2025 – 07/2025

Southwestern University, Georgetown, TX

- Trained and evaluated generative models in Python using PyTorch, implementing early stopping, checkpointing, and metric tracking to support reproducible experimentation.
- Developed tooling to collect, log, and visualize model evaluation metrics, enabling systematic validation of experimental results.
- Coauthored a peer-reviewed paper accepted to the 21st AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE-25).

### Student Software Engineer, Capstone: Senior Seminar in Software Engineering

01/2025 – 05/2025

Southwestern University, Georgetown, TX

- Collaborated with an Agile team using GitHub for version control, feature branching, and issue tracking to develop an educational game in the Godot Engine.
- Implemented a drag-and-drop mini-game with a state-driven tutorial system and dynamic validation logic, integrating a YAML-based dialogue manager and tween animations for user guidance and feedback.

## LEADERSHIP ROLES

- **Chapter President**, Upsilon Pi Epsilon National Honorary Computer Science Society 08/2024 – 05/2025
- **Vice President**, Lambda Theta Chapter, Phi Theta Kappa Honor Society 07/2022 – 05/2023