

# Brodie Berger

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## SUMMARY

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Passionate and detail oriented software engineer with hands on experience in full-stack web development and data visualization. Proficient in modern frameworks like Flask and React, with a strong foundation in Python, JavaScript, and MySQL. Excited to bring problem solving skills to a software engineering role.

## EDUCATION

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### Kean University

*Masters Degree in Computer Science*

Union, NJ

*Jan. 2025 – May. 2026 (Expected)*

### Kean University

*Bachelor of Science in Computer Science - 3.6 GPA Cumulative*

Union, NJ

*Sep. 2021 – Dec. 2024*

## EXPERIENCE

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### Data Science Intern

*Virtua Health*

Jun. 2025 – Sept. 2025

*Marlton, NJ*

- Led the end-to-end development and deployment of a Python-based machine learning web application with a RESTful API, enabling both the interactive front-end and other internal services to access the model's predictions.
- Collaborated with the data science team to design, train, and deploy a natural language processing (NLP) model, successfully integrating it into the electronic medical record (EMR) system to enhance clinical data accessibility
- Developed and delivered interactive Power BI dashboards by applying data mining techniques, providing insights to data analysts and other teams.

## PROJECTS

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### Fetal Health Prediction Model WebApp | *Python, Flask, SHAP, scikit-learn*

Jun 2025

- Built a machine learning web application that predicts fetal health using real cardiotocography data and a trained scikit-learn model.
- Integrated SHAP explainability tools to highlight top contributing features for each prediction, improving user trust and model transparency.
- Developed a RESTful API layer consumed by both the webapp and other internal company services, enabling wider accessibility and integration of the prediction model.
- Designed an interactive front-end interface for submitting inputs, visualizing results, and linking to a Jupyter-based data notebook.

### Open Source Video Game Data Framework | *Python, Lua, ARM Assembly*

Mar 2025 – Present

- Developed integration for new content into the Archipelago framework, enabling multiplayer item sharing and progression tracking.
- Implemented memory mapping in client emulator using Lua to synchronize in-game events with server state.
- Patched GBA ROM with custom ARM assembly to modify in game logic, alter inventory display, and redefine level-exit conditions, among others.
- Collaborated with the open-source community to extend support for other handheld titles within Archipelago.

### Full Stack Data Visualization Site | *Python, MYSQL, JavaScript, Playwright, Charts.JS*

Sep 2024 – Nov 2024

- Developed a scalable full-stack web application using Python (Flask) and MySQL to display real-time data.
- Utilized Python Playwright to act as a live web scraper to gather and store relevant data.
- Leveraged Charts.js API for interactive visualizations, improving data accessibility for non-technical users.

## TECHNICAL SKILLS

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**Languages:** Python, Java, C#, SQL (mySQL), PHP, JavaScript, HTML/CSS, R, C++

**Frameworks:** Flask, React, Bootstrap

**Developer Tools:** Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm, Eclipse

**Libraries:** Google Charts, NumPy, Matplotlib

**Knoweldge in Software Development Life Cycle (SDLC)**