

# Crystal Goulet

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## EDUCATION

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**University of California, Berkeley, CA**

**December 2024**

Bachelor of Arts in Data Science with an emphasis in Business/Industrial Analytics

**Relevant Coursework:** “Introduction to Artificial Intelligence,” “Data, Inference, and Decisions,” “Computational Structures in Data Science,” “Principles & Techniques of Data Science,” “Structure and Interpretation of Computer Programs,” “Data Structures & Programming Methodology,” “Concepts of Probability,” “Foundations of Data Science,” “Healthcare Analytics,” “Introduction To Engineering,” “Linear Algebra and Differential Equations,” “Introduction to Business Analytics,” “Data Engineering”

## HIGHLIGHTED PROJECTS & EXPERIENCE

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### **Artificial Intelligence Class Project**

**Summer 2024**

#### *Machine Learning*

- Implemented and optimized machine learning models using PyTorch for digit classification (MNIST) and language identification. Developed and fine-tuned neural networks, achieving 92.55% test accuracy, and applied techniques such as batching, feature engineering, and activation function tuning to improve model performance.

### **SAAS Club Decal Project**

**Spring 2023**

#### *Mental Health in the Tech Industry*

- Led exploratory data analysis on 1M+ data points, uncovering key trends in health inspection scores aimed at improving compliance and strategic decision-making across multiple facilities.

### **Data Analytics Associate**

**Spring 2022-Fall 2023**

#### *Associated Students at the University of California, Senate*

- Performed sentiment analysis on student surveys to identify key barriers to participation, directly influencing campus policies and increasing student engagement.

### **Business Analytics Class Project**

**Summer 2022**

#### *Predictive Modeling*

- Built stochastic models to assess financial decision-making under uncertainty, leveraging probability distributions to evaluate investment risks. Applied linear optimization techniques to optimize capital allocation strategies, incorporating sensitivity analysis to evaluate financial risk and decision impact.

### **Thoroughbred Research Company**

**October 2015-June 2016**

#### *Assistant Supervisor, Quality Assurance, Data Collection*

- Managed data collection, quality assurance, and team operations for research surveys, ensuring data integrity and accuracy. Evaluated call data for compliance, identified response biases, and optimized workflows to improve efficiency and data reliability.

## SKILLS

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**Programming & Tools:** Python (NumPy, Pandas, PyTorch, TensorFlow, Scikit-learn), SQL, MATLAB, Java, JavaScript, Git/GitHub, Jupyter Notebooks, Visual Studio, IntelliJ IDEA

**Data Engineering & Databases:** SQL (Query Optimization, Relational Algebra), Snowflake, MongoDB, ETL Pipelines, Data Cleaning & Preprocessing, Linear Programming, Stochastic Modeling, Integer Optimization, Tableau, Matplotlib

**Machine Learning & AI:** Neural Networks (Perceptron, CNNs), Reinforcement Learning, Clustering (K-Means, KNN), Decision Trees, Bayesian Methods, Logistic/Linear Regression, Time Series Forecasting, A/B Testing, Multivariate Testing

**Data Analytics, Finance, & Experimentation:** Exploratory Data Analysis (EDA), Feature Engineering, Decision Analysis, Sensitivity Analysis, Financial Data Analysis, Market & Industry Research, Statistical Modeling, Hypothesis Testing, Causal Inference, Risk Assessment & Scenario Modeling

**Platforms & Environments:** Windows, Linux, MacOS, Bash, Kaggle, Microsoft Excel/Citrix