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|  | [github.com/blakecrowther](https://github.com/BlakeCrowther) |
|  | [linkedin.com/in/blakecrowther](https://linkedin.com/in/blakecrowther) |
|  | [blakecrowther.github.io/my-portfolio](https://blakecrowther.github.io/my-portfolio/) |

EXPERIENCE

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| *Viasat* Jun 2024 – Sep 2024  **Graduate Data Scientist/Analyst Intern** |
| * Prepare, aggregate, and transform extensive usage and satellite datasets using advanced techniques from Postgres and Python data analysis libraries to represent an accurate network demand profile. |
| * Develop algorithms to optimize satellite capacity allocation by efficiently analyzing a complex search space to converge on the most optimal solutions. |
| * Reduced model training time by 40% by conducting Bayesian hyperparameter tuning with Amazon SageMaker and employing parallel processing strategies with MLOps best practices. |
| * Conduct comparative visual analysis between pre- and post-optimization network states, illustrating improvement in capacity allocation and beam utilization. |

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| *DIRECTV* Mar 2022 – Jul 2023  **Software Engineer** |
| * Served as an engineering owner, translating product requirements into comprehensive technical designs and actionable tasks, providing a solid foundation for the development process. |
| * Achieved on-time project delivery with 15% reduced costs by collaborating with cross-functional teams to provide accurate estimates and facilitate efficient planning for project features, showcasing strong communication skills. |
| * As a system integration engineer, developed and enhanced an internal stream validation tool used to improve the efficiency and reliability of our production streams, and integrate new capabilities. |
| * Monitored initiative progress during the integration and post-implementation phases by diligently monitoring KPIs and system functionality using Elasticsearch, Grafana, and Splunk, identifying opportunities for continuous improvement. |

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| *HeadsUp Lab at Loyola Marymount University* Aug 2019 – Aug 2021  **Lead Full-Stack Software Engineer** |
| * Led the development of CampusGandr, a React Native app currently deployed on iOS/Android, in collaboration with the psychology department’s HeadsUp Lab, funded by a NIH R01 grant. |
| * Translated client mocks into responsive mobile screens using React Native + Typescript, and built an admin dashboard with React for monitoring and moderating operations. |

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| *Ticketmaster* Jun 2019 – Aug 2019  **Software Engineering Intern** |
| * Delivered interactive and engaging user interfaces for consumer-facing applications in React, while leveraging Java for back-end services. |

PROJECTS

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| **Business Knowledge Graph:** WIP (Private) |
| * Developing an advanced knowledge graph for the USDA, leveraging ETL processes and Neo4j to combine datasets with geospatial, demographic, socio-economic, and business data, enabling the department to explore economic and development opportunities. |
| * Incorporating NLP techniques and LLMs to map natural language queries to enrichment features. |

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| **Scalable Music Recommender:** [github.com/BlakeCrowther...](https://github.com/BlakeCrowther/scalable-music-recommender) |
| * Developed a scalable music recommender system using the Yahoo! Music dataset with PySpark and the ALS algorithm for personalized recommendations. |
| * Optimized model accuracy with evaluation metrics (MAE, RMSE, precision, recall) and maintained a clean, scalable codebase for distributed execution. |

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| **Mental Health and Emotion in Music:** [github.com/BlakeCrowther...](https://github.com/BlakeCrowther/music-mental-health-and-emotion) |
| * This project leverages libraries such as NumPy, Pandas, and Matplotlib to investigate how individuals' self-reported music preferences correlate with their mental health indicators. |

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| **Music Genre Classifier:** [github.com/BlakeCrowther/music-genre-classification](https://github.com/BlakeCrowther/music-genre-classification) |
| * Utilizing Librosa, a music information retrieval library, this project extracts relevant audio features from songs to perform machine learning to train a genre classification model with PyTorch. |

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| **Jumble:** [jumble.mx](https://jumble.mx/) |
| * Jumble is a web application I developed to help musicians find the perfect track to mix with any song using the Spotify Web API, React, Next.js, GCP services, and hosted on Vercel |

BLAKE CROWTHER

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951-553-9046

San Diego, CA

SUMMARY

Driven data scientist with over 4 years of experience in full stack software engineering and data analytics, adept at transforming complex datasets into actionable insights. I have led projects merging data science and machine learning to support data-driven discovery and decision-making, using tools like Python, SQL, and AWS to optimize performance and drive efficiency. Notably, I implemented algorithms that significantly improved satellite capacity allocation, enhancing network utilization and operational effectiveness.

EDUCATION

**University of California, San Diego**

*M.A.S. Data Science & Engineering*

2023 - 2025

**Relevant Coursework**

Data Integration & ETL, Beyond Relational Data Models, Machine Learning, Scalable Data Analysis, Data Management Systems, Probability & Statistics, Python for Data Science

**Loyola Marymount University**

*B.S. Computer Science*

*Business Administration Minor*

2016 - 2020

**Relevant Coursework**

Algorithms, Artificial Intelligence, Databases, Data Structures, Discrete Methods, Operating Systems, Probability/Statistics, Programming Languages

**Certificates**

*AWS Certified Developer Associate*

2023

SKILLS

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| --- | --- | --- | --- |
|  | AWS |  | Java |
|  | Bash & Shell Scripting |  | JavaScript & TypeScript |
|  | C++ |  | Neo4j & ETL |
|  | Docker & Kubernetes |  | Postgres & SQL |
|  | GCP |  | Python & Spark |
|  | Git |  | R |
|  | Golang |  | React & React Native |