# Gable Brown

You@GableBrown.com | gitlab.com/C1ARKGABLE | linkedin.com/in/gable-brown | GableBrown.com

## Summary

A Senior Machine Learning Engineer with a Master's in Data Science, and a founded background in software development, currently developing production Machine Learning systems and data pipelines at Mindblazer. With expertise in PyTorch, TensorFlow, and object detection models, plus a proven track record of deploying scalable solutions at Wells Fargo and Disney, I bring strong technical leadership and cross-functional collaboration skills to drive AI innovation. With proficiency in Python, Go, ML/AI frameworks, and cloud infrastructure, I am well equipped for the cutting-edge projects at You.

## Skills

- **Programming Languages**: Python, SQL, Bash, Go, JavaScript, Julia, Rust, Java, R
- **Technologies and Tools**: Kubernetes, Docker, Terraform, Ansible, GitHub Actions, Airflow, Cloudflare Workers, AWS (Lambda, EC2, S3, RDS, VPC, IAM), OpenStack, PostgreSQL, MongoDB, Spark, PyTorch, TensorFlow, Snowflake

## Work Experience

**Senior Machine Learning Engineer** Feb 2024 — Present

Mindblazer *Remote, NC*

- Built a local-first data synchronization system using ElectricSQL, PostgREST, and PostgreSQL with a Swift and Go client for real-time sync between cloud databases and local SQLite instances, including containerized backend services and Terraform infrastructure provisioning.
- Trained and deployed object detection models using PyTorch and Meta-DETR that improved product facing verification accuracy and reduced manual audit time by 65% for retail clients.
- Implemented a CI/CD pipeline with GitHub Actions that automated SBOM generation and vulnerability scanning, reducing security review cycles from 5 days to under 2 hours while identifying and resolving 12 critical vulnerabilities in the first month.
- Developed a serverless REST API using Cloudflare Workers that reduced API response times by 40% and cut infrastructure costs by 60% compared to the previous container-based solution, while handling 1.2M+ monthly requests with 99.99% uptime.

**Software Engineer** Nov 2021 — Nov 2023

Viasat *Remote, NC*

- Led the development of an automated testing portal that reduced satellite network test execution time by 75% (from 2 hours to 30 minutes per test cycle) and increased test coverage by 40% through Python and Go microservices on Kubernetes.
- Automated infrastructure provisioning with Terraform and Ansible, reducing environment setup time from 3 days to 45 minutes and enabling 30% faster onboarding for new team members.
- Designed Airflow DAGs that processed 1TB+ of daily telemetry data and improving data pipeline reliability to 99.9% uptime.

**Software Engineer** Jul 2020 — Oct 2021

Wells Fargo *Remote, NC*

- Designed an internal statistical toolkit using Python (SciKit Learn, Pandas, NumPy, PySpark, PyTorch) and TensorFlow, implementing machine learning models for risk assessment and decision-making.
- Built and deployed a telemetry logging data warehouse using PostgreSQL with gRPC integration, developing Python APIs for data access and implementing data visualization dashboards.
- Utilized SQL for complex data analysis and reporting, creating automated data pipelines to process and analyze large-scale financial datasets efficiently.

**Data Engineer** Jun 2019 — Jan 2020

The Walt Disney Company *Orlando, FL*

- Automated 20+ manual data processes using Python, reducing reporting time by 85% and eliminating 120+ hours of monthly manual work for the analytics team.
- Led Python training for 25+ SQL/SAS developers, resulting in a 3x increase in team productivity and enabling the migration of 80+ legacy ETL jobs to modern Python-based pipelines.

## Projects

**Software and Firmware Engineer**, OpenPilot, Autonomous Driving Integration Jul 2025 - Present

- Implemented and fine-tuned OpenPilot's neural network models for lane detection, path planning, and vehicle control using PyTorch, optimizing model performance for real-time inference on automotive hardware.
- Developed custom calibration algorithms and safety validation frameworks for autonomous driving systems, including sensor fusion techniques and behavioral prediction models for enhanced decision-making.
- Engineered data collection and model training pipelines for automotive ML applications, implementing vehicle dynamics modeling and control system optimization for improved autonomous driving performance.
- Modified Honda Electric Power Steering (EPS) firmware using Python-based reverse engineering tools to enable enhanced torque control integration with autonomous driving systems.

**Solo Developer**, PortageRoute, River Navigation App May 2025

- Developed a native iOS application using SwiftUI and MapLibre for displaying and interacting with river navigation data, with a PostGIS/PostgreSQL backend for spatial data management.
- Designed and optimized spatial database schemas in PostGIS, enabling efficient storage and querying of complex river geometries and attributes.
- Created data processing pipelines to import and transform OpenStreetMap data into the PostGIS database, ensuring data accuracy and performance.

**Hardware and Software Developer**, Smart Coaster (https://gitlab.com/C1ARKGABLE/smart-coaster) Aug 2024

- Designed full-stack IoT system from PCB layout to cloud integration, selecting ESP32C6 microcontroller for dual WiFi/Bluetooth capabilities and implementing hardware abstraction layers for sensor interfacing and power management.
- Architected embedded firmware using ESP-IDF and PlatformIO with real-time task scheduling, interrupt-driven sensor processing, and low-power state machines, while developing responsive web interfaces for device configuration.
- Implemented cross-platform communication protocols including Matter/Thread for smart home integration, WebSocket APIs for real-time control, and OTA firmware update mechanisms with version management.

**Creator and Full-Stack Developer**, Regexle, Daily Regex Puzzle (https://regexle.com) May 2024

- Built a daily regex puzzle platform that attracted 1,000+ monthly active users within the first 3 months, with an average session duration of 4 minutes.
- Engineered a serverless backend using Cloudflare Workers that handles 5,000+ API requests daily with sub-50ms response times, while remaining in the free tier.
- Achieved global reach with 10,000+ puzzle completions across 50+ countries after 12 months while maintaining zero operational costs through efficient serverless architecture.

## Education

**University of North Carolina at Charlotte** May 2021
*Master of Science, Data Science* *Charlotte, NC*

**University of North Carolina at Charlotte** Aug 2020
*Bachelor of Science, Computer Science* *Charlotte, NC*