

Mason Obegi

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EXPERIENCE

HP — Quality Engineer III

Oct 2025 – Present

- Design and develop internal web applications to host automation tooling, giving testers a central place to launch, monitor, and share programs across the QE org.
- Build automation systems that replace repetitive manual testing processes, improving coverage and freeing engineering time.
- Rebuilt a degraded Power BI reporting database from the ground up, restoring reliable team-wide reporting on test results and product metrics.

HP — Test Specialist I

Feb 2025 – Oct 2025

- Automated enterprise-level reporting pipelines using Python and R, improving efficiency, accuracy, and consistency across stakeholder workflows.
- Built time series forecasts and statistical models in R to support data-driven planning and decision-making.
- Developed prompt-engineering workflows for internal LLM tools and built dashboards and Tkinter desktop applications for internal stakeholders.

Molecular Testing Labs — Lab Automation Engineering Intern

Jun 2023 – Apr 2024

- Developed computer vision pipelines using OpenCV and PIL.
- Built machine learning models using TensorFlow and Keras; presented findings to executive leadership.
- Created KPI dashboards using R Shiny and designed components in Autodesk Fusion 360.

PROJECTS

Bootleggers — Real-Time Multiplayer Strategy Game

Mar 2026 – Present

TypeScript, Node.js, Phaser 3, PostgreSQL, Socket.io, Railway — bootleggers.up.railway.app

- Designed and built a full-stack real-time multiplayer strategy game — Phaser 3 frontend, Node.js + Socket.io backend — deployed on Railway.
- Designed a normalized PostgreSQL schema with a hand-rolled idempotent migration runner; authored complex SQL for Google OAuth upsert, 24-column lifetime stat aggregation, and conditional streak tracking.
- Engineered a four-tier bot AI (Easy – Expert) with EV-driven scoring across builds, sprawls, gambles, and trades; Expert bots evaluate ~30 candidate moves per turn using forward-thinking heuristics, color-card probability modeling, and adversarial leader-targeting.
- Authored a regression harness running 1,000+ simulated games per pass with 25,000+ behavioral invariants, catching strategy and state-machine bugs before deployment.
- Built a trade evaluation engine simulating post-trade casino ownership and computing per-player expected income/VP deltas, preventing bots from accepting or proposing lopsided swaps.

Full-Stack Web Applications — E-Commerce & Booking Platforms

Mar 2026 – Present

Next.js, TypeScript, Prisma, PostgreSQL, Stripe, Resend, Sharp, Railway, Cloudflare — [imadobegi.up.railway.app](#) · [thepoochpitgrooming.com](#)

- Built two production web apps: a multi-section fine art storefront (photography prints, watercolors, sticker shop) and an appointment booking platform for a real grooming business — both live on custom domains with Cloudflare DNS/SSL and Railway-managed Postgres.
- Engineered a scheduling availability engine with interval-overlap checks preventing double-bookings, configurable hours, and one-off/recurring time-off blocking; integrated a deposit + balance payment flow and transactional email notifications via Stripe and Resend.
- Developed lightweight CMS dashboards for non-technical owners to edit content, pricing, policies, photos, and reviews — changes cascade site-wide instantly, backed by a settings store with safe defaults.
- Automated an image-processing pipeline using Sharp and Python (pillow-heif) for watermarking and HEIC conversion; implemented secure cookie-based auth, Open Graph/SEO, and fully responsive mobile design across both platforms.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, R, SQL, Java, C++

Frontend: React, Next.js, Tailwind CSS, Phaser 3

Backend & Data: Node.js, PostgreSQL, Prisma, Socket.io, REST APIs, Streamlit, Tkinter, Shiny

ML & Analytics: TensorFlow, Keras, PyTorch, OpenCV, Pandas, Scikit-Learn, Forecasting, Statistical Modeling, Tableau, Power BI

Tools & Math: Git, GitHub, Railway, Cloudflare, Excel, VS Code, Autodesk Fusion 360 · Statistics, Linear Algebra, Calculus

EDUCATION

Washington State University

2024

B.S. Data Analytics · Minor in Mathematics · Minor in Criminal Justice · GPA: 3.62 / 4.00 · 2024
Outstanding Data Analytics Student Award