Hannan Syed Shah

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Education

Rutgers University School of Engineering - Honors College Expected Graduation : May 2026

Bachelor of Engineering - Computer Engineering *GPA: 3.50*

Experience

Beagle Labs (Seed-Stage AI Startup — Raised $5M, Backed by NVIDIA Inception Accelerator) October. 2025 – Present

Founding AI Engineer *New York City, NY*

- Architected and shipped a production ready **Inspector Portal** using Next.js, React, TypeScript, and Supabase, deployed on Vercel, enabling field inspectors to coordinate multi property inspections with automated communication workflows.
- Designed an **RFC 5322 compliant email threading system** using the Resend API with smart recipient resolution, template based sending, webhook driven reply ingestion, and secure attachment management via Supabase Storage.
- Built a **multi property inspection coordination system** that intelligently groups related properties by policyholder, synchronizes communication logs across inspections, and prevents duplicate outreach through primary contact thread designation.
- Implemented **Clerk and Supabase Row Level Security** authentication with two tier access control, ensuring batch level data isolation for inspectors while enabling privileged admin background operations.
- Established a **CI/CD pipeline** with GitHub Actions running Vitest unit tests, Playwright end to end tests, Biome linting, and TypeScript validation, achieving comprehensive coverage across email parsing, threading logic, and attachment processing.

Browserbase (#1 Enterprise Startup in SF — Forbes' Next Billion-Dollar Startup) June 2025 – July 2025

Software Engineer Intern — Infrastructure *San Francisco, CA*

- Developed an internal **Admin Dashboard** (Next.js + Node.js + TypeScript) running inside Browserbase's Kubernetes cluster, replacing the legacy Support CLI and paving way for removal of production secrets from $>$25 engineer laptops.
- Engineered a plug-and-play **1Password integration** for Browserbase sessions that bundled the WebExtension into a signed ZIP, automated OTP-aware login via the 1Password Connect SDK, and enabled one-click access to any site.
- Spearheaded a full-stack RCA on **Microsoft's end-to-end Browserbase tests**, instrumented support scripts with proxy traffic tracing, clearing the path for Microsoft's enterprise contract and directly seeding the Admin Dashboard initiative.
- Built a universal search that federates Supabase and Clerk data to surface organization, project, and user insights, **cutting first-response triage time from 30 min to under 5 min**, and allowing relations between the three data flows to be seen accessibly.
- Implemented high risk support **actions** (plan upgrades, concurrency throttles, stealth toggles, email resets) guarded by Zod validation and tiered Clerk RBAC, slashing configuration errors and enabling full auditability.

Casca AI (#1 AI Fintech Startup - Backed by Top 3 SBA Banks) Jan. 2025 – Apr. 2025

Software Engineer Intern *San Francisco, CA*

- Developed an end to end credit scoring system with SOAP integrations that **reduced loan decision time from 72 hours to under 2 minutes**, achieving 99.8% system availability and saving approximately $100K annually.
- Engineered a document search system using AWS Textract OCR and Elasticsearch that **indexed 20000 client files**, reducing document discovery time by 85% and **expediting underwriting decisions by 3x**.
- Constructed a full-stack automated invoice system with Next.js, TypeScript, tRPC, Prisma, and jsPDF, **generating over 500 invoices for multiple banks** with dynamic PDF creation and persistent S3 storage.
- Implemented an autonomous authentication system via Gmail API integration and Redis locking, eliminating manual PIN entry and **cutting SBA loan processing time from over 2 days to under a minute**.
- Built an AI-powered business valuation tool with Next.js, TypeScript, tRPC, and OpenAI, automating financial analysis using EBITDA and revenue multiples, and **delivering instant, data-driven loan assessments** with Redis-backed caching.
- Architected and implemented a high performance conversation pinning system in React/TypeScript, **enabling loan officers to prioritize key leads** and a **15% increase in conversion rates**.

Florida International University May 2024 – Aug. 2024

Machine Learning Research Intern *Miami, FL*

- Enhanced the security of Federated Learning techniques for resource-constrained edge devices by simulating attack and aggregation algorithms and **creating a neural network model from scratch in C++**.
- Conducted extensive validation and testing on simulated IoT devices, **achieving 75% validation accuracy** despite various attacks, confirming the robustness of the implemented aggregation strategies.
- Leveraged state of the art quantization techniques and initiated pruning methodologies to substantially minimize the computational resources required for simulation, **reducing resource consumption**.

Technical Skills

Languages: Go, TypeScript/JavaScript (React, Next.js, Node/Bun/Deno), Python, C++
Cloud/DevOps/Databases: AWS, Kubernetes, Docker, Terraform, CI/CD, Tilt, PostgreSQL, Supabase, Redis, Elasticsearch
Observability & Concepts: Prometheus, Grafana, Loki, OpenTelemetry, Distributed Systems, Real-Time Architecture, Microservices