

HIMANSHU SHEKHAR

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PROJECTS

• Taggy - An accountability-first learning platform [🌐]

[Github](#)[🌐]

Go, Echo, PostgreSQL, sqlc, Goose, JWT, NVIDIA NIM, LiveKit

- Built backend services for a learning platform supporting AI-generated roadmaps, skill communities, progress tracking, and live audio rooms.
- Implemented a bounded AI-generation worker pool with 2 workers, a 64-job queue, and job timeouts to limit concurrent processing and reject excess queued work.
- Implemented asynchronous AI-generation workflows with retries and JSON cleanup, alongside email OTP, Google OAuth, JWT sessions, refresh tokens, and rate limiting.
- Designed PostgreSQL indexes and uniqueness constraints for session lookups and active-request deduplication; managed schema changes with Goose and type-safe SQL access with sqlc.

• Vanilla Transformer from Scratch

[Github](#)[🌐]

Python, PyTorch

- Built an encoder-decoder Transformer in PyTorch for English-to-Italian translation.
- Created a training pipeline using OPUS Books with custom tokenizers, padding, causal masks, and checkpoints.

• Good Bash - Bash-like Shell in Rust

[Github](#)[🌐]

Rust, Cargo, Crossterm, CLI, Process Management

- Built an interactive command-line shell in Rust with a raw-mode REPL, editable input buffer, cursor movement, and tab autocomplete.
- Implemented core built-ins and external command execution through the system \$PATH.

SKILLS

- **Programming Languages:** Go, Python, C++, Rust, Java
- **Backend Development:** REST APIs, Authentication, Authorization, Middleware, Concurrency, Worker Pools, Layered Architecture
- **Databases:** PostgreSQL, MySQL, SQL, Indexing, Transactions, Database Migrations
- **Frameworks & Tools:** Echo, FastAPI, sqlc, Goose, JWT, bcrypt, Docker, Git, GitHub
- **Machine Learning & AI:** Machine Learning, Deep Learning, Neural Networks, Computer Vision, OCR, PyTorch
- **Other:** API Design, Backend Architecture, Raspberry Pi, IoT

EXPERIENCE

• Sythra [🌐]

July 2026 – Present

Founder's Office

- Diagnosed and fixed Cloudinary upload configuration issues, restoring reliable image uploads in the content-management workflow.
- Developed admin-panel features for creating, updating, and deleting content.
- Co-wrote the Machine Learning course and contributed to the Deep Learning course.

EDUCATION

• Bennett University

Bachelor of Technology - CSE

◦ CGPA: 8.35

August 2024 – Present

Noida, India

ACHIEVEMENTS

- 3rd Rank - Deep Sight Challenge, RoboGenesis BU
- Tech Lead at AI Society BU - Taught Neural Networks

April 2026

October 2025 – March 2026

CERTIFICATIONS

• Machine Learning Specialization - Andrew Ng

July 2025

• Deep Learning Specialization - Andrew Ng

October 2025

ADDITIONAL INFORMATION

Interests: IoT, Robotics, AI Automation

Side Projects: Rover and DeskBuddy - AI Pet