

# PRANJAL SRIVASTAVA

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## SUMMARY

Full-stack/AI engineer who ships privacy-first, production-ready web and AI experiences end to end. I build on-device RAG apps (WebLLM/WebGPU), client-side hallucination guardrails, and voice-AI workflows, while also delivering robust RESTful backends (Node/Express, Java), SQL tuning, and CI/CD. Strengths include retrieval design (chunking, embeddings, Top-k tuning), prompt engineering/evaluation, accessible and fast JS/TS frontends, and pragmatic DevOps (Docker, health checks, GitHub Actions) for repeatable demos and reliable releases.

## CORE SKILLS

**Languages & Frameworks:** Python, Java, TypeScript/JavaScript, Node.js/Express, React, SQL

**AI & Retrieval:** RAG, embeddings (Transformers.js/MinILM), cosine similarity, Top-k tuning, chunking strategies, guardrails

**Model & Prompting:** Prompt libraries, eval sets, safety/refusal patterns, grounding via citations, answer-diffing and red-teaming

**Frontend & UI:** Component architecture, responsive layouts, accessibility (ARIA, focus), forms/validation, routing

**Backend & APIs:** RESTful design, authentication/authorization (RBAC), pagination, validation, Swagger/OpenAPI

**Data & Storage:** SQL modeling/tuning, caching strategies, client storage (IndexedDB/localForage), pdf.js ingestion

**Cloud & Deployment:** Static hosting (GitHub Pages), Vercel serverless APIs, ngrok, CORS, Docker, health checks

**Dev Workflow:** Git/GitHub Actions CI, code reviews, PR templates, issue triage, Agile/Scrum

**Security & Governance:** RBAC, input validation, audit logging, change control

## EXPERIENCE

### Tinker Tech Logix - Software Developer

Apr 2024 - Sep 2025

- Built and enhanced modular web apps; shipped features across admissions, fees, exams, and results modules.
- Designed and tuned SQL schemas/queries with caching for high-load screens to improve responsiveness and reduce load spikes.
- Implemented RBAC with server-side validation, audit logging, and change control for accountable operations.
- Documented API contracts with Swagger/OpenAPI; improved error handling and retry patterns across the stack.
- Wrote unit/integration tests and added GitHub Actions CI; containerized services with Docker and added health checks.
- Raised accessibility with ARIA roles, focus outlines, keyboard flows, and reduced-motion support across core screens.
- Collaborated via code reviews and PR templates; supported staged rollouts with rollback steps and runbooks.

### ECS - Intern, Cloud Server & Data Management

May 2019 - Aug 2019

- Assisted cloud migration planning, stability hardening, and performance tuning of data platforms.
- Supported backup/recovery procedures and contributed to scale-out planning and data handling policies.

## PROJECTS - HIGHLIGHTS

### Private Doc Chat - On-Device RAG (Browser-Only) | GitHub Pages

- Pure client-side PDF Q&A; local embeddings (Transformers.js MiniLM) + WebLLM (WebGPU) + cosine Top-k retrieval; zero backend, zero paid APIs.
- Sliding-window chunking with overlap and similarity thresholding; strict quote-only answers with inline citations to reduce hallucinations.
- IndexedDB vector persistence with Clear Data, Service Worker offline shell, accessible UI; static CI/CD to GitHub Pages.

### Hallucination Guard - Client-Side LLM Evidence Checker (React + TS)

- Verifies each claim in an LLM answer against user-provided PDFs/text entirely in-browser via embeddings + retrieval pipeline.
- Review -> Sources -> Report flow with clickable evidence and grounded fix drafts; designed for clarity and trust.
- Privacy-first and zero-ops; static deployment with CI/CD for reproducible demos.

### Vanessa - Voice AI Acquisitions Agent (Node/Express + React Dashboard)

- Backend endpoints (/vapi/events, /api/leads, /health) with deterministic rules; CORS/ngrok setup for stable dev.
- Frontend dashboard with readable tables/cards, filters, and empty/error states; live lead badges for quick triage.
- Ops runbook and health feeds; packaged for repeatable demos and reliability.

### Portfolio Site - Modern Static Frontend (GitHub Pages)

- Responsive layout with sticky header, dark/light toggle, accessible navigation; keyboard-friendly dialogs and focus rings.
- Core Web Vitals: preload hero, explicit image dimensions, content-visibility, deferred non-critical JS via requestIdleCallback.
- Projects gallery with tag filters and search; high-conversion contact funnel with honeypot, thanks page, and confetti.

### ServiceNow - Dog Adoption Portal App

- Custom tables and forms, flow designer for approvals, list views, and basic role-based access; clean navigation.
- Built adoption request lifecycle and notifications; demo-ready seed data for quick trials.
- Documented setup steps and included screenshots/runbook for reviewers.

### ServiceNow - Helpdesk Ticketing App

- Users raise tickets (hardware/software/other); triage to teams; auto-assignments based on category/priority rules.
- Notifications on resolution and status changes; reports for SLA visibility.
- Well-labeled forms, validation rules, and list filters for fast support handling.

### ECG Heart Failure Detection (ML)

- Signal preprocessing, feature extraction, and classical ML to classify heart failure risk.
- Training/validation workflows and metrics reporting; documented limitations and next steps.

- Academic presentation and write-up for the project.

#### **DDoS Detection on SDN (Mininet/Ryu/Python)**

- Traffic capture, labeled flows, and ML model to detect volumetric anomalies in SDN environments.
- Implemented pipeline scripts and evaluation harness; reproducible experiments.
- Reported precision/recall and ablation insights; notes on deployment considerations.

#### **Database Optimizations via DSA**

- Analyzed index strategies, query plans, and data structures to improve query latency.
- Proposed algorithmic tweaks and caching policies; measured improvements with benchmarks.
- Documented migration steps and risks; wrote a concise runbook.

#### **Fake News Detection (Python)**

- Text preprocessing, vectorization, and classifier training; baseline comparisons across models.
- Precision/recall and confusion matrix reporting; notes on data bias and generalization.
- Readable CLI scripts and a short README with results.

#### **Weather Forecasting with Deep Learning**

- Feature engineering and deep learning architecture for short-term forecast predictions.
- Training curves and error metrics; comparisons with simpler baselines.
- Careful notes on data leakage and evaluation design.

## **EDUCATION**

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**M.S., Computer Science - Texas A&M; University - Corpus Christi**

**2022 - 2023**

**B.Tech., Computer Science - SRM Institute of Science and Technology**

**2017 - 2021**

## **CERTIFICATIONS**

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- micro1 - Certified Software Engineer (AI Interview), Sep 2025
- Complete ServiceNow Developer Course (Udemy)
- Programming in Python for Everyone (Coursera)
- ChatGPT Prompt Engineering for Developers
- Building Real-Time Video AI Applications (Nvidia)

## **EXTRA-CURRICULAR**

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- Scheduler, International Student Organization (ISO) - Texas A&M; University-Corpus Christi Planned and maintained the ISO master calendar
- handled room bookings and university approvals. Coordinated end-to-end event logistics (venue, AV, catering, permits/risk forms)
- created run-of-show and contingency plans. Recruited, scheduled, and led volunteer teams
- defined roles and SOP checklists for smooth execution. Negotiated with campus/external vendors
- ensured on-time delivery and policy compliance. Drove email/social promotions (Canva/Instagram)
- tracked RSVPs/feedback to refine programming and increase attendance.