

Yuvraj Kashyap

(737) 288-7112 | ykyuvrajcashyap@gmail.com | linkedin.com/in/yuvraj-kashyap | github.com/YuvrajKashyap | yuvrajcashyap.com

EDUCATION

University of Texas at Dallas

Expected May 2027

B.S. in Computer Science, Minor in Finance, Certificate in Entrepreneurship & Innovation

GPA: 3.76/4.00 | Dean's List | NCAA Division II Men's Tennis Student-Athlete

Relevant Coursework: Advanced Algorithms, Data Structures & Algorithms, Database Systems, Systems Programming, Software Engineering, Programming Languages, Machine Learning, Artificial Intelligence, Computer Vision, Linear Algebra, Probability & Statistics

EXPERIENCE

Undergraduate Researcher, UAV / Smart City Systems

Oct 2025 – Present

University of Texas at Dallas

- Built a geometry-driven UAV swarm simulation framework over a 4 km × 4 km OpenStreetMap/Blender urban environment to evaluate multi-agent path planning, visibility, and coverage under realistic city constraints.
- Modeled occlusions, non-convex obstacles, sensing constraints, and learning-guided coordination heuristics to study UAV behavior beyond simplified grid or voxel-based environments.

Electrical Engineer, NOVA Autonomous Driving Research Program

Sep 2023 – Jun 2025

University of Texas at Dallas

- Built Python preprocessing pipelines for 3D sensor data, including voxel-grid point cloud downsampling that reduced scan size from 370,277 to 20,528 points while preserving geometric structure.
- Debugged power, sensor, and I/O reliability issues across autonomous vehicle subsystems, translating hardware constraints into software and systems-level fixes for perception reliability.

Vice President of Finance & Project Team Lead, Consult Your Community

Jan 2026 – Present

University of Texas at Dallas

- Led cross-functional consulting engagements for Glydr, a hardware company building foot-based computer control interfaces, and Get in the Path, an education nonprofit expanding access to academic and mental-health resources.
- Built Glydr's web-based gaming hub prototype and drove execution across product operations, pricing and financial strategy, go-to-market planning, marketing, nonprofit launch operations, and final client deliverables.

PROJECTS

Aletheia – Hybrid Retrieval, Reranking & Search Observability Platform

Python, FastAPI, PostgreSQL, Redis/RQ, OpenSearch, Qdrant, SQLAlchemy, Alembic, Docker, Next.js

- Engineered a production-style hybrid search system combining OpenSearch BM25, Qdrant dense retrieval, BAAI/bge-small-en-v1.5 embeddings, and cross-encoder reranking over SciFact benchmark data.
- Built ingestion, normalization, chunking, indexing, query tracing, and evaluation workflows with PostgreSQL/SQLAlchemy models, Alembic migrations, Redis/RQ workers, index versioning, and benchmark dashboards.

Atlas – Distributed Crawl, Extract, Index & Search Platform

Python, FastAPI, PostgreSQL, Redis, OpenSearch, Docker, Next.js

- Built a distributed crawl, extraction, and indexing platform for ethical public web content with URL frontier scheduling, robots.txt/politeness enforcement, Redis-backed workers, and OpenSearch retrieval.
- Implemented raw and cleaned content storage, extraction, deduplication, freshness/recrawl workflows, parser debugging tools, observability dashboards, tests, and runbooks.

Beyond Chat – Artifact-Centric AI Workspace with Finance Agent

React, TypeScript, FastAPI, Supabase, OpenRouter, Exa, Stripe, LangChain, Vercel Sandbox, Pytest, Vitest

- Built a full-stack AI workspace for chat, writing, research, image, data, and finance workflows with workspace-scoped RLS, Stripe billing, artifact storage/search, streaming responses, and Dexter finance-agent execution through Vercel Sandbox.

Capital – Secure Personal Finance Sync & Alerting Platform

TypeScript, Next.js, Supabase Auth/Postgres, Plaid API, Vercel Cron, Resend, Web Push

- Built a secure finance monitoring system integrating Plaid, Supabase, Vercel Cron, Resend, and Web Push for authenticated account sync, transaction monitoring, scheduled digests, and money-movement alerts.
- Implemented Plaid token exchange, AES-256-GCM access-token encryption, cursor-based transaction sync, verified webhooks, balance snapshots, owner-scoped RLS data access, and alert delivery workflows.

TECHNICAL SKILLS

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

Backend & APIs: FastAPI, Node.js, REST APIs, Server Actions, SQLAlchemy, Alembic, Pydantic, Zod

Data, Search & Infrastructure: PostgreSQL, Redis/RQ, OpenSearch, Qdrant, Supabase Auth/RLS, Docker, Docker Compose, Git, GitHub Actions, Vercel, Linux/Unix, CI/CD

AI/ML Systems: BM25, vector search, embeddings, cross-encoder reranking, retrieval evaluation, OpenRouter, Exa, LangChain, PyTorch, NumPy, Pandas, OpenCV

Frontend & Integrations: React, Next.js, Tailwind CSS, Vite, Framer Motion, Recharts, Stripe, Plaid API, Resend, Web Push