Yash Gupta

yashgupt@buffalo.edu | +1 716-650-8143 | LinkedIn | Github

Education

University at Buffalo, SUNY	January 2025 – Present
Master of Science, Computer Science	*Buffalo, NY*
Jaypee Institute of Information Technology	2017 – 2021
Bachelor of Technology, Computer Science (8.0/10.0 CGPA)	*Noida, India*

Technical Skills

- **Languages:** Python, TypeScript, JavaScript, C/C++, Java, SQL
- **Backend:** Node.js, Nest.js, FastAPI, Spring Boot, RESTful APIs, Microservices
- **Databases:** PostgreSQL, MongoDB, Redis
- **ML/AI:** PyTorch, TensorFlow, Scikit-learn, Graph Neural Networks, NLP
- **Cloud & Tools:** AWS, Docker, Kubernetes, Git, Zapier, CI/CD, Kafka

Experience

Wizni Software Ltd (Arive Platform) — June 2023 – Dec 2024
Software Engineer — *Gurgaon, India*

- Integrated high-demand **Loan** and **Lead** modules with **Zapier** for mortgage broker platform by creating separate deployment directory for Zapier-specific forms and API endpoints, enabling event-driven automations (loan creation, updates, notifications).
- Eliminated manual data entry by **100%** and improved broker satisfaction by **80%**
- Migrated legacy **Node.js** services to **Nest.js** (including PPE, LW-Zapier, and parts of LOS), improving scalability, maintainability, and developer productivity through modular architecture and strict typing.
- Optimized complex **SQL queries** in the user portal, reducing data load times by 50% and enhancing responsiveness; collaborated with product and frontend teams to design **RESTful APIs** that improved integration consistency.
- Led **code reviews**, refactoring efforts, and documentation improvements, reducing technical debt and significantly improving onboarding efficiency for new developers.

Paytm - One97 Communications Ltd — July 2021 – May 2023
Software Engineer — *Noida, India*

- Onboarded **5+ insurance brokers** to aggregator platform by collaborating with clients to integrate their **APIs**, designing data schemas in **Postgres**, and coordinating system modifications across internal and partner teams while mentoring interns.
- Built **ambulance aggregator service** from ground-up including database design, multi-partner API integration, booking workflows, and payment processing using **TypeScript**, **MongoDB**, and **Redis** for session management
- Built self-service dashboard with **Excel upload** functionality enabling PMs to configure insurance metadata, storing files in **S3** and ingesting structured data into **Postgres**, reducing manual configuration time by **80%**
- Architected digital health consultation platform for **Government of India's UHI initiative**, integrating government APIs via **AWS API Gateway**, implementing **WebSocket-based real-time chat**, and deploying **ML-based NSFW detection** model to validate documents before secure transmission to government servers
- Optimized backend search APIs reducing latency by **40%** achieving **90%+ test coverage** using **Mocha** and **Istanbul**

Kuliza Technologies — Jan 2021 – July 2021
Software Engineering Intern — *Bengaluru, India*

- Built custom lending solutions for **LendingKart** and **L&T** clients using **lend.in** platform, collaborating directly with clients to gather requirements and configure **Java/Spring Boot** microservices
- Developed end-to-end workflow configurations and credit-risk assessment systems, handling both backend development and **DevOps responsibilities** for multi-client deployments, successfully delivering products to **UAT** phase

Projects

EventHub - Full-Stack Event Booking Platform
Live Demo — GitHub

- Developed scalable event management system using **FastAPI (Python)**, **React with TypeScript**, and **PostgreSQL**
- Implemented secure **JWT authentication**, **real-time notifications** via **WebSockets**, and **Stripe payment integration**
- Built **RESTful APIs** with **async/await** patterns, achieving **sub-100ms response times** for critical endpoints
- Containerized application using **Docker**, deployed on **AWS/Render** with **CI/CD pipeline** using **GitHub Actions**
- Features: **Real-time** seat availability tracking, **QR code ticketing**, email notifications, and **admin analytics dashboard**

GRASP - Cross-modal Self-Supervised Molecular Representation Learning
GitHub

- Developed cross-modal self-supervised learning framework aligning molecular **graphs** and **SMILES** representations using **InfoNCE contrastive loss**, inspired by CLIP architecture for molecular domain
- Built dual-encoder pipeline with **GIN** for molecular graphs and **ChemBERTa** for SMILES sequences, processing large-scale **PubChem** dataset with optimized streaming using **RDKit** on limited compute (Kaggle P100)
- Achieved strong transfer learning results on **MoleculeNet** benchmarks with reduced labeled data: BBBP (**0.94 ROC-AUC**), Tox21 (**0.82 ROC-AUC**), ESOL (**0.90 RMSE**)
- Implemented using **PyTorch Geometric** and **Transformers**, demonstrating effective cross-modal alignment and addressing label scarcity in molecular property prediction