

Shantnu Kaushal

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EDUCATION

St. John's University

Bachelor of Science, Computer Science

Queens, NY

Aug 2022 – Dec 2025

- **GPA:** 4.0
- **Relevant Coursework:** Software Engineering, Analysis of Algorithms, Database Management Systems

PROFESSIONAL EXPERIENCE

Sports Excitement

Apr 2025 – Present

Founding Software Engineer

- Orchestrate the development lifecycle of 15+ core features in an Agile Scrum environment, translating user requirements into a production-ready social networking platform
- Architect a high-performance backend using Node.js/Express and PostgreSQL, optimizing schema design and indexing to reduce query latency by 25% for complex user-relational datasets
- Standardize engineering workflows by institutionalizing peer code reviews and GitHub Actions CI/CD on Linux environments, increasing deployment reliability and reducing production turnaround by 40%

NASA L'Space

Sept 2025 – Dec 2025

Student Researcher

- Engineered a theoretical signal processing framework to mitigate Radio Frequency Interference for lunar missions, architecting an adaptive filtering algorithm targeting a 20 dB suppression threshold
- Designed a hybrid real-time architecture utilizing C++ for high-speed noise cancellation and Python for machine learning integration to recover faint astronomical signals in high-noise environments
- Authored a New Technology Report for a competitive NASA solicitation, defining the software integration strategy and technology infusion pathways for future lunar missions

PROJECTS

[TweetCheck](#) | Python, Golang, Apache Kafka, BERT, PyTorch, Redis, WebSockets

- Constructed a high-throughput event streaming pipeline utilizing Kafka to ingest and process 1.6M+ social media posts at a rate of 1,000+ events/sec
- Executed real-time sentiment analysis by fine-tuning a BERT model in PyTorch, achieving low-latency analysis for concurrent data streams
- Visualized live sentiment volatility and system-wide processing lag through a performance dashboard powered by Redis and WebSockets

[ReSource](#) | React Native, pgvector, Hugging Face, Gemini API, Flask

- Synthesized a Retrieval-Augmented Generation platform to ground LLM responses in private datasets, mitigating hallucinations via semantic context injection
- Leveraged local Hugging Face transformers and pgvector to index high-dimensional document embeddings, enabling air-gapped semantic search with verifiable source citations

[AirAware](#) | C#.NET 8, ASP.NET Core, gRPC, PostgreSQL, xUnit, Docker

- Formulated a predictive maintenance engine to monitor global flight telemetry, calculating maintenance urgency by correlating flight duration with landing-site environmental conditions
- Interfaced microservices through a high-performance gRPC bridge, utilizing binary serialization to reduce internal communication latency by 30%
- Validated maintenance logic and stress-score algorithms through comprehensive xUnit testing suites, ensuring system reliability for critical flight-data enrichment

TECHNICAL SKILLS

Programming & Frameworks: Python, Golang, C#.NET, C++, Java, SQL, TypeScript/JavaScript, FastAPI, Next.js, React

AI & ML: PyTorch, TensorFlow, Hugging Face Transformers, RAG, NLP, Vector Search, Pandas, NumPy, Scikit-learn

Data & Infrastructure: AWS, Kubernetes, Terraform, Apache Kafka, PostgreSQL, Redis, Docker, CI/CD