

Anurag Bhattacharjee

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PROFESSIONAL SUMMARY

Senior Python Full Stack Engineer with 10+ years of experience building enterprise applications, internal platforms, REST APIs, and AI-powered products across telecom, digital commerce, healthcare, and banking. More than six years of Python experience across professional development, applied research, and independent projects, with Django, Flask, FastAPI, React, Angular, Vue.js, and TypeScript. I have built products from scratch, modernized a 30-year-old telecom platform, and contributed to a C#/ASP.NET framework that cut dashboard development time by 60%. My M.Sc. research produced BERT-KenMeSH with 94% Precision@1, complementing hands-on work in NLP, production chatbots, embeddings, vector search, and RAG.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, SQL, C#, Perl, Java, Groovy

Backend & APIs: Django, Flask, FastAPI, Node.js, Express.js, ASP.NET, REST APIs, third-party integrations

Frontend: React, Angular, Vue.js, Lit, HTML5, CSS3, Bootstrap, jQuery

AI / ML: PyTorch, TensorFlow/Keras, Hugging Face Transformers, BERT, NLP, RAG, embeddings, vector search, semantic retrieval, model evaluation

Data & DevOps: PostgreSQL, MySQL, pgvector, Supabase, Docker, Linux, Git, SVN, CI/CD

Engineering: System design, data pipelines, authentication, session management, RBAC

EXPERIENCE

Full Stack Software Engineer, Execulink Telecom, Woodstock, Ontario

Aug 2023 – Jun 2026

- Led the initial architecture and development of Viridian, a Python/Django and React modernization initiative for a 30-year-old Perl CRM. Built the modular backend foundation, protected routes, reusable components, and integration path for future API-driven services.
- Delivered a self-service DNS management platform using Perl, Lit, and the PowerDNS REST API, giving internal teams and more than 200 business customers direct control over their DNS records.
- Created a secure database-access platform with table- and action-level RBAC, metadata-driven permissions, schema documentation, controlled query and update workflows, and audit logging. The platform reduced related support requests by approximately 30%.
- Automated ONT inventory, assignment, snapshots, and status checks across fibre-order workflows, cutting manual handling by approximately 70% and reducing errors for support and provisioning teams.
- Explored the use of RAG for internal knowledge retrieval through a Python prototype using embeddings, pgvector/Supabase, and LLM-based semantic search, with a focus on ingestion and retrieval quality.
- Built additional operational tools for IP address management, service monitoring, inventory alerts, usage reporting, and telecom status dashboards, turning complex SQL and business rules into practical workflows for internal teams.

Senior Developer, Webable Digital, Bangladesh

Sep 2018 – Aug 2021

- Represented the development team in client meetings, led architecture decisions and production releases, and mentored junior developers on design and code quality.
- Designed and built an AI-powered customer support chatbot from scratch using Python, Flask, MySQL, NLP, and REST APIs.
- Integrated the chatbot with the commerce platform's Facebook Messenger and Instagram channels: customer messages were routed to the chatbot API for processing, and generated replies were sent back through the same conversation.
- Developed and iteratively trained custom NLP models on client-specific datasets, achieving 78% intent-classification accuracy.
- Worked directly with clients to gather business requirements, translate them into technical solutions, and lead deployments from development through production release.
- Helped build a messenger-based commerce experience that allowed customers to browse products and interact with businesses directly through chat.
- Designed customer showcase websites with PHP/Laravel, Vue.js, React, JavaScript, HTML, and CSS.

Software Engineer, IQVIA, Bangladesh

Jul 2015 – Aug 2018

- Developed enterprise KPI dashboards using Angular, ASP.NET, C#, and SQL, helping healthcare clients visualize business performance and make data-driven decisions.
- Improved drug-information retrieval by refining data processing and search logic, reducing retrieval time to approximately one-sixth of the previous duration.
- Contributed to an in-house C# framework built on ASP.NET that standardized reusable dashboard components and reduced development time by approximately 60%.
- Received the Client Delight Award in 2017 and won the company hackathon the same year.

Software Engineer, BRAC IT, Bangladesh

Dec 2014 – Apr 2015

- Contributed to sbiCloud, an enterprise resource planning platform used to manage employee and operational data across BRAC Bank's international operations, working with Groovy, Grails, and PostgreSQL.
- Gained early experience maintaining a large corporate software system, collaborating within an engineering team, and understanding how data, business processes, and software development come together in an enterprise environment.

LEADERSHIP & TEACHING EXPERIENCE**Board Member, Community of Guardians, London, Ontario**

Dec 2023 – Present

- Serve as a registered board member, contributing to organizational planning, governance, and long-term decision-making.
- Review organizational proposals and presentations, contribute to board discussions, and vote on key decisions.

Volunteer Chief Technology Officer, Community of Guardians, London, Ontario

Jul 2023 – Aug 2023

- Led early technology planning and website development, helping establish the organization's initial technical direction.

Teaching Assistant, Western University, Department of Computer Science, London, Ontario

Sep 2021 – Dec 2022

- Supported more than 200 students across four undergraduate computer science courses covering JavaScript programming, information systems, software development tools, and foundational computer science.
- Led tutorials, reviewed assignments, explained technical concepts, and helped students improve their programming and problem-solving skills.
- Courses: Foundations of Computer Science; Information Systems and Design; Programming Modern Survival Skills II; Approachable Apps—A Gentle Introduction to Programming Using JavaScript.

PROJECTS & OPEN SOURCE (github.com/anuragbhattacharjee)**AI Retrieval Pipeline | Python, FastAPI, PostgreSQL/pgvector, Embeddings**

2026

- Ongoing RAG application covering document ingestion, chunking, embedding generation, semantic retrieval, and evaluation, with a modular FastAPI backend for comparing retrieval strategies and measuring answer relevance.

Clockin | Python, Linux, Snap

2026

- Built and published a lightweight command-line time tracker for Linux with tagged work sessions, weekly and monthly summaries, local JSON storage, and CSV export. Designed it to run without accounts, cloud services, or external Python dependencies.

Discord NLP Bot | Python, PyTorch, Discord API

2020

- Built and deployed a real-time Discord bot that analyzes the sentiment, emotion, and sarcasm of live messages using a deep-learning model and responds with a contextually relevant emoji. The open-source project has received 19 GitHub stars and three forks.

RESEARCH**BERT-KenMeSH, Western University**

2023

Developed a deep-learning model for automatic MeSH indexing of biomedical articles, combining BERT with the KenMeSH approach to improve how PubMed research is categorized and retrieved. Achieved 94% Precision@1 across more than 35 million MEDLINE articles.

Supervisor: Dr. Robert E. Mercer

Thesis: ir.lib.uwo.ca/etd/9267/

Bangla Speech Corpus for Large-Vocabulary ASR, KUET

2014

Built a Bengali dialect speech corpus using recordings and utterances from 15 speakers to support automatic speech recognition.

Supervisor: Dr. Pintu Chandra Shill

EDUCATION

- **M.Sc. Computer Science, AI Specialization (Thesis).** GPA 3.9/4.0, Western University

2023

- **B.Sc. Computer Science & Engineering (Thesis).** KUET, Bangladesh

2014

CERTIFICATIONS & RECOGNITION

- Ivey Business School Innovation Scholar

2023

- Vector Institute AI Specialization

2023