

# Bipul Banjade

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## Professional Summary

| US Citizen | AI & Software Engineer | Full-Stack (JS/TS/React/Node, Python) | ML/LLM Systems, Data Pipelines, and Backend Development | Analytical Thinker, Fast Learner, and Team Player | Open to full-time/internships in SWE, AI, and ML |

## Education

### New York University

August 2022 - May 2026

Bachelor's, Computer Science

GPA: 3.57

- Bachelor's, Physics (Double Major)
- Relevant Classes: Software Engineering, Data Structures and Algorithms, Artificial Intelligence, Probability and Statistics, Operating Systems, Data Management and Analysis, Calculus 3, Computer Vision, Quantum Physics I (A+)

## Professional Experience

### Scale AI

Remote

Generative AI Engineer - Contract

April 2024 - August 2025

- Implemented FastAPI services with async endpoints, job handlers, and optimized PostgreSQL queries (indexes + prepared statements), cutting LLM training pipeline downtime 60% and increasing task processing 30%.
- Trained and configured agentic ML systems for enterprise clients, enhancing model performance in analytics and forecasting.
- Applied time-series analysis, regression, decision trees, and seasonal decomposition to transform raw datasets into schema-aligned outputs, enabling insights on seasonal demand, growth segments, and depreciation impacts.
- Authored 200+ unique programs (Python/JS/Java/C) to train tier-1 LLMs; emphasized correctness, edge-cases, and clarity.
- Quality-reviewed software datasets produced by 250 + AI trainers across 10 enterprise projects on the Outlier platform.

### New York University

New York, NY, USA

IT Research Technician - Undergraduate Research

September 2023 - December 2024

- Resolved technical issues for 300 + Bobst Library patrons daily, ensuring uninterrupted research access.
- Developed and deployed MacOS scripts, managing access control and reducing manual labor by 5+ hours/week.
- Managed Alma/SQL/HTML admin tasks with attention to data integrity and privacy.

## Projects

### AI-Based Research Hub "COSMICO"

Remote

Full-Stack Developer - <https://cosmicoai.netlify.app/>

February 2025 - May 2025

- Developed an end-to-end full-stack AI research website using React/JS, Tailwind, Node.js, Express, and MongoDB, using cross-API communication amongst OpenAI and arXiv APIs for real-time paper retrieval, citations, and automated summarization.
- Implemented cross-API orchestration and cost-aware model selection (route to smaller vs. larger LLMs by task scope) yielding 60% API cost reduction and ~40% latency improvement (Turbo 3.5 vs. 4o).

### ERC-20 Wallet Balance Service

New York, NY, USA

Backend Dev (Py, Docker, FastAPI, Postgres, Redis) <https://github.com/BipulB7/ERC-20-Wallet-Service> July 2025 - August 2025

- Built a FastAPI + PostgreSQL service to compute ERC-20 wallet balances at arbitrary timestamps using token transfers, price series joins, and efficient indexing/caching.
- Implemented block-range backfill jobs with idempotent inserts, reorgs, and LRU "as-of" price lookups for historical queries.
- Containerized full stack (API, DB, Redis) with Docker Compose for reproducible local/cloud deployment.

### Spectral Clustering and Data Visualization Toolkit

Remote

ML Developer (Python - Matplotlib, Scikit-learn, scipy) - <https://github.com/BipulB7/Spectral-Clustering> April 2025 - June 2025

- Developed a Python toolkit that clusters and visualizes over 600 synthetic samples using KMeans and spectral clustering, automating RBF affinity matrix computation and Laplacian eigen-analysis for both linear and non-linear datasets.
- Boosted silhouette on non-linear clusters from 0.32 to 0.63; produced clear diagnostic plots (Matplotlib).

## Skills

**Programming:** Python, TypeScript, JavaScript, Java, C/C++, SQL

**Frameworks:** React.js, Node.js, Express.js, FastAPI, Tensorflow, vite, Pytorch, Keras, Scikit-learn, matplotlib, Scipy

**Data/Infra:** Postgres, MongoDB, REST, Redis, NumPy, Pandas, Github, Docker, Embeddings

**AI:** LLM Integration, (Un)Supervised Learning, VectorDBs, LangChain, CNN/RNNs, OpenAI API, Transformers