Bipul P. Banjade - www.bipulpbanjade.com (Available Fulltime or Parttime)

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EDUCATION

New York University   **New York, New York**
Double Major- B.S. in Computer Science & B.A in Physics   *Expected Graduation, May 2026*

- o **Concentrations:** Systems Engineering/SWE/Physics Laboratory
- o **GPA:** 3.51/4.00
- o **Related Coursework:** Artificial Intelligence, Operating Systems, Computer Systems Organization, Data Structures and Algorithms ,Data Management and Analysis Physics III+ and Dynamics, Experimental Lab Physics, Quantum Mechanics I, Operating Systems, Software Engineering, Calculus III, Linear Algebra, Probability and Statistics

WORK EXPERIENCE

Outlier (Scale AI)   **Remote-NY**
Generative AI Tutor- STEM/SWE Focus (Python, JS, Java, C++, C)   *Apr 2024-Dec 2024*

- Curated and evaluated extensive **algorithmic (SWE) and STEM codebases (physics/math simulations)** to **train model capabilities** for top AI companies, implementing rubric-driven **data annotations and evaluations**.
- Worked on over **7 different project teams** over 8 months, even being **promoted to "reviewer"**. As a reviewer, I was responsible for ensuring all work submitted by contributors were up to standard for client submission.
- Specialized in **advanced physics simulations** (Quantum, Classical, Dynamic), and **computer software** (algorithms, data structures) codebases.

NYU Bobst Library Computer Center   **New York, New York**
Support/Research Technician   *Sep 2023– Dec 2024*

- Automated data sanitization and role-based access management by developing MacOS Scripts, reducing manual data handling by over **5 hours** per week.
- Supported internal IT system testing and validation, ensuring high uptime and security for NYU's library services.

PROJECTS

AI-Based Research Hub "COSMICO"   **Collaboration Project**
Backend Lead   *Dec 2025 – Feb 2025*

- Full-stack platform **(React, Tailwind, Node.js, MongoDB**) with secure integration of **OpenAI and ArXiv APIs**, focusing on real-time data retrieval and safe AI-based content analysis.
- Led backend development with attention to secure **API cross-communication**, rate limiting, and user session management to protect data flows and ensure efficient **chatbot** interactions.

Shakespeare Character-Level LSTM   **Paris Artificial Intelligence Co-Op**
Developer   Feb 2025- April 2025

- Engineered a character-level **LSTM pipeline** on Shakespeare's Complete Works, conducting whitespace vs. **NLTK tokenization and Zipf's Law** analysis; built and compared one-hot and embedding-based **LSTM models** with temperature sampling, beam search, and perplexity-driven re-ranking.

Engineering- Automated Box   **NYU Engineering Competition**
Team Lead   *Sep 2024 – Dec 2024*

- Embedded **C++/PCB** device that locks phones during deep work; telemetry & OTA updates; Top-5, NYU Competition

PHYSICS RESEARCH + LABORATORY EXPERIENCE

NYU Physics Department Laboratory

- Designed and executed 24+ experiments involving classical dynamics, quantum behavior, and probabilistic modeling using **Python/MATLAB**. Over 3 years of experience.

Research Paper- Wave-Particle Duality and Quantum Superposition: From the Double-Slit Experiment to Qubits

- Explored the link between quantum superposition and wave-particle duality, integrating theoretical analysis with experimental data collected at the NYU Physics Lab..

SKILLS

Languages: Python (advanced), C++, C, Java, JavaScript/TypeScript, SQL
AI / ML: AI Training, LLM API integration, RNNs, PyTorch, TensorFlow, LSTM Models, Predictive Modeling
Systems: REST & gRPC APIs, FastAPI, Docker, AWS, GitHub Actions, CI/CD, Static Analysis
Tooling: MATLAB, NUMPY, PANDAS, VSCode Extensions, Git, Confluence, Slack API, Pandas, NumPy, AutoCAD