Gorakh Bahadur Khatri

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EDUCATION

Howard University, Washington, DC — ***Expected Graduation: May 2026***

Bachelor of Science in Computer Science (HU Leadership Scholar) — ***GPA : 3.84/4.0***

Relevant Coursework : Computer Science III, Computer Organization, Software Engineering, Calculus II, Fundamentals of Algorithms, Cloud Computing, Operating Systems, Theory of Computation, Computer Network, Discrete Structures

TECHNICAL SKILLS

Programming Languages : Python, Java, JavaScript, C++, TypeScript, HTML, CSS

Frameworks, Libraries & Tools : Git/GitHub, Angular, React, Guice, Prompt Engineering, Matplotlib, NumPy, Pandas, Spacy, NLTK, Streamlit, NLP, RxJS, JUnit, SQLite, ResNet-50, Keras, OpenCV, Figma

WORK EXPERIENCE

NASA Aeronet Data Analyst, Howard University, *Beltsville, MD* — ***August 2023 – Present***

- Analyze **AERONET** data using **Python, Pandas**, & **NumPy**, leveraging **Time Series Analysis** & **Machine Learning models** to evaluate Aerosol Optical Depth and Water Vapor impacts on pollution.
- Utilize **Jupyter Notebooks, Matplotlib**, & **Plotly** for data visualization, providing insights on atmospheric interactions that support NASA's environmental research and climate models.
- Presented a research poster at **AERONET Science & Exchange 2024**, highlighting the findings on pollution trends.

Software Engineering STEP Intern, Google Inc., *Sunnyvale, CA* — ***May 2024 – August 2024***

- Designed & implemented a **Java RPC Action** & method using a **Large Language Model** to generate insights to troubleshoot slow database operations in Google's internal debugging tool.
- Augmented the trace formatter with additional metadata fields, enabling seamless storage and retrieval of **Traces, Logs, and Annotations**, improving the debugging process and reduced manual intervention.
- Developed over 5000 lines of backend code in **Java**, using **Apps Framework** and **Guice Dependency** injection, & **prompt-engineering LLM** outputs for optimized **RPC database** performance.

Teaching Assistant, Computer Science, Howard University, *Washington, DC* — ***August 2023 – December 2023***

- Supported over 250 students in CSCI-100, assisting the Google in Residence instructor during lectures and labs, and guiding students through **Python** programming concepts in weekly office hours.
- Created grading rubrics & provided feedback, organizing workshops to boost student collaboration & understanding.

Software Engineering STEP Intern, Google Inc., *New York, NY* — ***May 2023 – August 2023***

- Worked closely with a Google Cloud Storage UI team to build a subtask of an upcoming high priority GCS feature using **Angular components** & **TypeScript** to allow users to view & configure the cache settings.
- Executed the entire development process, including drafting technical design documents, leveraging **RxJS** for managing asynchronous data streams, & researching multiple design approaches.
- Wrote comprehensive **Unit and Screenshot Testing Cases**, fully complying with Google's code review process to uphold code integrity, minimize potential bugs, and ensure the use of industry-best coding practices.

PROJECTS

AI-Based Chess Game — ***September 2024***

- Built a full-stack AI-based chess game in **Java**, implementing the **Minimax algorithm** with **Alpha-Beta pruning** for AI logic, and created a responsive UI using **JavaFX** and **Java AWT** for smooth gameplay and visual effects.
- Integrated SQLite for game state persistence, used **JUnit** for testing move logic, managed dependencies with **Maven**, employed **Git/GitHub** for version control, and enhanced animations with the **JavaFX Animation API**.

ImageInsight: AI Captioning App — ***April 2024***

- Developed a Flask-based web app using a **ResNet-50 Convolutional Network** for feature extraction and **LSTM** for sequence generation, automatically generating captions for user-uploaded images.
- Utilized **Python, Keras, OpenCV**, and **Flask** to build and deploy the image captioning model, integrating **Deep Learning** with real-time web functionality.

Resume Analyzer — ***February 2024***

- Developed an AI Resume Analyzer with **Python, Streamlit, Spacy, & NLTK** for accurate resume parsing & analysis.
- Implemented **NLP** techniques using **Spacy** for **tokenization**, **POS tagging**, entity recognition, and **NLTK** for stemming and sentiment analysis to extract education, work experience, and skills data for personalized career guidance.

ACTIVITIES

Goldman Sachs Market Madness Scholar — ***January 2024 – April 2024***

- Selected from 500 applicants for a semester-long Goldman Sachs financial program; awarded $6,000 US Dollars.
- Led a capstone project on a **Nike Case Study**, recommending an acquisition strategy using financial projections.

X-Tech HBCU Student Competition- US Army — ***February 2024***

- Proposed an autonomous mine clearance system to the US Army & DOD, using **LIDAR**, **ground-penetrating radar**, & **thermal imaging** with drones for detection and robots for disarmament **(Python, ROS)** to neutralize landmines.
- Received a $3500 cash prize and presented the project at the 37th BEYA STEM Conference.