Kritish Pokharel

kritish.pokharel@bison.howard.edu Washington, DC | (202) 873-6662 http://www.linkedin.com/in/kritishp

EDUCATION

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

Bachelor of Science in Computer Science *GPA*: 4.0/4.0

Relevant Coursework: Computer Science I & II, Data Structures & Algorithms, Software Engineering, Fundamentals of Algorithms, Theory of Computation, Cloud Computing (AWS), Operating Systems, Computer Organization, Calculus

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, HTML/CSS, SQL, C++, Julia, Dart
Frameworks, Libraries & Tools: Flask, Pandas, NumPy, Plotly, Matplotlib, Beautiful Soup, Scikit-learn, XGBoost, React.js, Node.js, Next.js, MySQL, TensorFlow, Flutter, Kubernetes, Docker, Azure, AWS, MongoDB, Linux/Unix, Git

WORK EXPERIENCE

Software Engineering Intern – Apple Inc., Sunnyvale, California *May 2024 – August 2024*

- Developed an end-to-end **full-stack** web application within the Vision Products Group (VPG) using **Plotly Dash** (Python Flask-based framework), **HTML**, **CSS**, and **JavaScript**. The application streamlined the triage process for media-related data from Apple Music and Apple TV on Vision Pro during testing.
- Enhanced visibility by showcasing sysdiagnose logs of manual and automated tests in a graphical and intuitive dashboard, enabling QA teams to identify bugs more quickly and developers to diagnose bugs more effectively.
- Configured a **Flask**-based macOS Media **Server** to handle interactions between the web application and Apple's internal tools, facilitating data retrieval and processing that are essential for the triage operation.
- Deployed the web application on a **Kubernetes** cluster, ensuring scalability and reliability to manage extensive testing workloads efficiently.
- Presented and demoed the tool to the Vision Products Group leadership.

Undergraduate Research Assistant – Howard University**,** Washington, DC *March 2023 – May 2024*

- Led the conversion of **NASA** JPL's Telescope-Coronagraph Design codebase from **C++** to **Julia**, which significantly enhanced accessibility and efficiency and made it ready for **open-source** release.
- Engineered an optimal pupil basis set methodology in Julia, which increased overall system performance by **12%**.
- Leveraged advanced mathematical techniques, including Eigen, Singular Value, and LU Decomposition, along with efficient data structures to achieve a **10%** improvement in imaging precision and light suppression.
- Wrote **unit tests** and **system robustness tests** to ensure the integrity and reliability of the design, identified opportunities for enhancement, and implemented data-driven optimizations to improve system performance.

IT Intern – Lavner Education**,** Washington, DC *June 2023 – August 2023*

- Taught the fundamentals of **Python**, **database (MySQL)**, **artificial intelligence,** and **machine learning** at Lavner Summer Camp, equipping **60+** campers with essential knowledge in these domains.

PROJECTS

Hackathon: BisonBytes (2nd Place) – Howard University *March 2024*

- Developed an AI chatbot answering questions related to Howard University, integrating **Azure Cognitive Search** with **OpenAI's GPT API**, utilizing Retrieval-Augmented Generation **(RAG)** for real-time responses.
- Built a **Flask API** with a **React.js** and **Next.js** frontend for easy user access to the chatbot.

PILOT NextGen TV Fellowship – National Association of Broadcasters, US *October 2022 – April 2023*

- Created a user-friendly weather application for NextGen TV using **HTML/CSS, JavaScript**, and **MySQL**, allowing viewers to check the weather on their television screen.
- Conducted on-air testing of the application on a television channel successfully.
- Presented the application at the 2023 NAB Show in Las Vegas which was attended by almost **60k** people.

X-Tech HBCU Student Competition (Finalist) – US Army *December 2022 – February 2023*

- Proposed a technology to the US Army and DOD stakeholders**,** leveraging deep learning algorithms such as **Convolutional Neural Networks** to analyze combat movements and **Recurrent Neural Networks** to simulate real-time combat scenarios, aimed at enhancing soldiers' proficiency in close-quarters combat.
- Received a $3500 cash prize and presented the project at the 37th BEYA STEM Conference.

Hackathon: Designing a Sustainable Future using ICTs (2nd Place) – ITU, United Nations *November 2021*

- Created a mobile app using **Flutter**, **Dart**, and **Python** integrating ML algorithms like **Logistic Regression**, **Random Forest** and **XGBoost** to predict landslide risk percentage based on geospatial & meteorological data.
- Invited to Dubai, UAE to attend the United Nations Public Service Forum and awarded a $2000 cash prize.

ACTIVITIES

- Goldman Sachs Market Madness HBCU Possibilities Program 2024 – Selected Scholar (500+ applicants)
- PIT-UN Convening 2023, Boston University – Selected to lead a conversation circle on AI and Machine Learning
- Google Tech Immersion Program 2023 – Invited Scholar
- Google Developer Student Clubs (2022 – 2023 Academic Year) – College of Engineering & Architecture Liaison