Benjamin Panamdanam

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Education

Binghamton University ***Expected Graduation: May 2027***

BS, Computer Science *GPA: 3.96*

Experience

Machine Learning Analysis Researcher ***August 2023 – December 2024***

First Year Research Immersion-Image and Acoustics Analysis (SUNY Binghamton) *Binghamton, NY*

- Created deepfake dataset in collaboration with **Intel** and **University of North Carolina** presenting final project at Binghamton University Research Fair as well as submitting article **to Conference on Computer Vision and Pattern Recognition (CVPR).**
- Automated **Python** based research pipeline connecting multiple machine learning deepfake models like **SimSwap, Roop** and **Real3DPortrait** into existing **FF+** dataset collaborating with team of undergraduate researchers.
- Enhanced deepfake detector robustness by **13%** using machine learning tools **SciKit**, **Tensorflow** and **PyTorch.**

UX/UI Intern ***January 2023 – June 2023***

Channel HES Inc *Cortlandt Manor, NY*

- Enhanced the user interface and optimized the user experience for a global movie and video streaming startup, creating solutions to meet the needs of an international audience.
- Worked on user reports UX and UI testing using **UserTesting** software to find more popular and efficient interfaces for both developers and users, increasing user engagement by **10%.**
- Elevated web application functionality through **HTML**, **CSS**, and **JavaScript** with ES6+ features for **dynamic client-side interactivity**, ensuring an optimal user experience.
- Implemented structured data markup to improve search visibility and traction, achieving a **16% improvement** in SEO performance, while scaling **Bootstrap** and **Git** frameworks to ensure adaptability and facilitate collaboration.

Research Intern ***June 2021 – December 2022***

Itan Lab, Icahn School of Medicine at Mt. Sinai *Remote*

- Wrote mock research paper on genetic and phenotypical mutations utilizing the **Database of Genotypes and Phenotypes** under Department Lead and PHD students.
- Presented research at **2023 Regeneron WESEF Competition** to academic and industry professionals.
- Leveraged data science platform **JuptyerLab, NumPy** and **Pandas,** assisting in statistical projections using the **matplotlib** and **Seaborn** data modules.
- Utilized advanced data analytics techniques, including **SQL functions** and **querying**, to parse through genetic databases and find optimal patterns using **indexing** and **subqueries.**

Projects

Capture The Flag Cybersecurity Club, SUNY Binghamton | ***August 2024 – Present***

- Analyzed **NIST Cybersecurity Framework** to understand implementation of **GRC** policies and risk analysis
- Utilized Carnegie Mellon's **PicoCTF** to focus on concepts such as **binary exploitation**, **cryptography** and **forensics.**
- Applied **Kali Linux**, **WireShark**,, **Burp and Ghidra** to solve security related challenges

Association of Computing Machinery, SUNY Binghamton | *Project Division Manager* ***November 2023 – Present***

- Made use of **HackerRank** and **DSL** to create coding questions for students of all levels at multiple competitions.
- Instructed students at weekly presentations on **Data Structures and Algorithms** such as **Greedy Algorithm**, **Stack** and **Leetcode** style problems.
- Co-head of Project Division, creating standardized method for creating technical projects, from brainstorming to implementation.
- Spearheaded cross-functional **software engineering teams** of varying expertise to deliver successful applications, ensuring project success through regular collaboration, strategic troubleshooting, and effective conflict resolution.

HackBU 2024 Hackathon "Drawing with Fourier Transformations" | *Python, PyGame* ***April 2023 – May 2023***

- Collaborated with group to create **GUI** application for Hackathon competition.
- Utilized **PyGame** and Python to create a program utilizing user input, **object oriented programing** and multiple states.
- Translated **Fast Fourier Transformations** into Python code in order to transform x,y coordinates into Fourier equation.

Skills

C, Python, Java, MySQL, HTML, CSS, VSCode, Linux, PyCharm, Eclipse, Git, JuptyrLab, IntelliJ, React, Node.js, Flask, Bootcamp, Snort IDS, WireShark, Nmap, AWS, NIST CSF