MA (Open to relocate)
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Nikesh Ghimire

LinkedIn/nikcache
GitHub/nikcache
Portfolio

Experience

Fullstack Python Developer **Aug 2022 — Present**
Freelance, Patina Green Concord, MA

- Switched to a paperless digital inventory system, built on Python and tkinter, to effectively manage holiday inventory records.
- Utilized Flask and SQL Alchemy to efficiently manage back-end functionality, prioritizing run time and accuracy.
- Curated analysis feature to help visualize trends across time, expected changes season to season and optimize stock in hand.
- Collaborated closely with the manager to properly understand and develop required features, fix bugs and brainstorm optimizations.
- Created detailed UML class diagrams and unit tests to help reduce time spent programming while maintaining bug-free code.

ML Research Engineer **Jan 2020 — May 2022**
Computer Science Department, Connecticut College New London, CT

- Developed machine learning models, on MATLAB, capable of instrument recognition via posture data obtained via OpenPose.
- Trained deep learning models on Keras with visual OpticalFlow analysis to classify bowing movement of musicians playing the violin.
- Designed instrument specific models with Long Short-term Memory (LSTM) with PyTorch to detect musical onsets.
- Experimented with video/audio data from 3+ datasets, helping generalize model over wider data ranges.
- Improved overall accuracy of multi-instrument onset detection model by 7% by refining pre-processing of data.
- Built multi-dataset compatible API-like framework for data extraction from 1500+ video and audio files.

Head Teaching Assistant **Aug 2019 — May 2022**
Computer Science Department, Connecticut College New London, CT

- Promoted to Head Teaching Assistant in May 2021.
- Led, organized and delegated 30+ Teaching Assistants (TA) for 22+ classes.
- Built and introduced an automated grading platform to the department, via python and SQL, for TAs to grade 600+ assignments.
- Built custom databases on Notion for efficient scheduling and easy hand-off to succeeding Head TA.
- Collaborated with 3 other departments on campus to maintain the department's reputation with the community.
- Tutored 600+ students over 20+ classes throughout 3 years.
- Graded 400+ assignments over 5 classes, including Algorithms & Data Structures.

Education

Bachelor of Arts in Computer Science, Connecticut College, **Cumulative GPA: 3.97/4.00** **Aug 2018 — May 2022**
Summa Cum Laude
Honors: Dean's High Honors (Fall 2018, Fall 2019 - Spring 2022), Dean's Honors (Spring 2019)
Awards: Junior and Senior Computer Science Awards, Science Leader, 3rd place CCSCNE Undergraduate Poster Presentation
Programming Languages Python, MATLAB, Java, JavaScript, Kotlin, C#, Objective C
Tools & Frameworks Keras, PyTorch, Machine Learning, Graphic Design, 3D Modelling and Animating, Unity3D, VR Development, Git, VS Code, Adobe CC, LaTeX

Projects

Job Application Semi-Automation, Economics Department & IRB, Connecticut College **Dec 2020 – March 2021**

- Worked with Dr. Mark Stelzner and a peer pursuing an Economics Honors Thesis to build a custom platform for job applications.
- Developed a python selenium application to help automate job applications to study racial biases in the job market.
- Generated 500+ resumes with python, Google Cloud API, Selenium and LaTex with made-up information fed in via google sheets.

Scientific Photography Logger, Astronomy Department, Connecticut College **Jun 2019**

- Developed logging program, via python, to keep records of astronomical pictures taken over a period of 4 years.
- Integrated program to work with MaxIm DL scripts to automate light data normalization process.
- Developed and shared GUI program to Astronomy departments at other universities.

xPilot Neural Network (NN) Controller **Oct 2019**

- Built a Queue Genetic Algorithm (QGA) to prepare 3 separate intelligence metrics toggled via a NN.
- Collaborated with 2 peers to develop 100+ fundamental rules to be followed by the NN controller.
- Developed framework to run 25+ simulations in parallel with bash commands to decrease runtime of algorithm by 2500%.

VR Escape Room Simulator **May 2022**

- Led a team of 3 as the development head behind game mechanics and scripting.
- Collaborated with 2 peers to develop a 3D VR game with Unity for research purposes.
- Modeled and textured 20+ objects and utilized 7 modules from the Unity asset store.
- Scripted 25+ C# scripts, 2 shaders, 4 animations via Blender, Blockbench, and sketchFab.