

Riken Patel

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Education

University of Illinois at Chicago (UIC)

Master of Science in Electrical & Computer Engineering

Completed: May 2022

GPA: 3.7/4.0

University of Illinois at Chicago (UIC)

Bachelor of Science in Biomedical Engineering

Completed: Dec 2020

GPA: 3.5/4.0

Work Experience

Honeywell International Inc.

Des Plaines, IL

Control Systems Software Engineer

July 2022 – Present

- Utilized front-end development skills in HTML, CSS, and Visual Basic code to create Graphical User Interfaces (GUI) for proprietary UOP chemical engineering controls processes deployed on AVEVA Wonderware & Honeywell Experion platforms.
- Collaborated with senior engineers in back-end work of programming logic for Programmable Logic Controllers (PLC) using Structured Text, Visual Basic, Ladder Logic, and Function Block Diagram on Siemens S7, Allen-Bradley Rockwell, Schneider Electric Triconex, Honeywell Safety Manager and Honeywell Experion & C300 platforms.
- Configured and Networked PCs, VMWare Virtual Machines (VMs), and control system hardware to allow simulation, integration, testing, and troubleshooting of hardware and software.
- Supported the maintenance and development of systems software and resources for effective technology transfer to the marketplace while maximizing value to customers.

Projects

Personal Website

Dec 2022 – Jan 2023

- Developed a personal website using HTML, CSS, Bootstrap, and JavaScript. Deployed it on GitHub: <https://RikenP.github.io>

COVID Facemask Detection using Convolutional Neural Network

Apr 2022 – May 2022

- Programmed a method of image analysis that uses Convolution Neural Networks (CNN) to classify images of people into three separate categories: correctly worn facemask, no facemask worn, or incorrectly worn facemask. Utilized Python libraries: NumPy, Pandas, TensorFlow, Keras, and Sklearn (Scikit-Learn). Obtained an accuracy rate of 91%.

Machine Learning Project

Mar 2021 – Apr 2021

- Used decision tree classifier (random forest classifier) to classify & plot a sample Heart Disease UCI dataset from Kaggle. Utilized Python libraries: Sklearn (Scikit-Learn), NumPy, Pandas, Matplotlib. Obtained an accuracy rate of 90%.

ECG Noise Cancellation

Mar 2021 – Apr 2021

- Raw ECG signal data was filtered through adaptive filters (least means square, normalized least means squares, and recursive least squares) to best minimize the mean square error and maximize the peak signal to noise ratio using Python.

MNIST Data Classifier using a Neural Network

Mar 2021 – Apr 2021

- Built a 3-fully-connected-layer-network using NumPy, TensorFlow Keras, Matplotlib, cross-entropy loss function on Python. Obtained an accuracy rate of 97% with a 7% loss.

MNIST Handwritten Digit Recognition Data Classifier

Feb 2021 – Mar 2021

- Modeled each of the training and testing datasets using Bernoulli Distribution. Utilized Python libraries: NumPy, TensorFlow Keras, and Matplotlib. Obtained an accuracy rate of 84% with 16% error rate.

Research

University of Illinois at Chicago

Jan 2020 – May 2020

- Multi-Well Environmental Controls research via 3D printed Microfluidic Devices and Cell Culture.
- I helped create an Arduino based microcontroller device that will help control the flow of oxygen going into the 96-well plates cell cultures, by releasing any excess gas out if it reaches a certain threshold. The data is projected on a digital graph that displays sinusoidal waves with fluctuations.

University of Illinois at Chicago

Sept 2019 – May 2020

- I helped in the Neuroradiology, and Brain Development and Pediatrics research department to create a brain atlas from multiple MRI images obtained from 10-day old piglet brains via segmentations using ITK Snap, 3D slicer, and Microsoft Excel.

Skills

Languages: Python (OOP), MATLAB, HTML, CSS, Visual Basic, JavaScript, SQL, C++, Arduino

Frameworks: Bootstrap, TailwindCSS

Software Programs: Microsoft Excel / Word / PowerPoint, Arduino, SolidWorks, Autodesk Fusion 360, Simulink, LabVIEW, NI Multisim, 3D Slicer, Jama Connect, LT Spice, Siemens S7, Honeywell Experion & C300, Schneider Electric Triconex, Allen-Bradley Rockwell Studio 5000 & ControlLogix

Relevant Coursework: Pattern Recognition, Neural Networks, Image Analysis & Computer Vision, Digital Signal Processing