

# Nikki Phach

----- 📍 Boston, MA | 📞 (401) 585-3212 | ✉ nikkiphach@gmail.com | 🌐 npach | 🌐 in/npach -----

As a first-generation American and the first in my family to attend university, my drive for knowledge focuses on AI and machine learning. My involvement was sparked by my personal interest in the Japanese language, especially as it relates to NLP technology. I seek to utilize my skills within a team that encourages ongoing learning, collaboration, and offers opportunities for growth in software development.

## Education

### University of Massachusetts Boston

May 2024

B.Sc in Computer Science

- Advanced Data Structures and Algorithms (Java)
- The Structure of Higher Level Languages (Racket)
- Database Management (Oracle SQL)

### Supervised Machine Learning: Regression and Classification

January 2024

Coursera (DeepLearning.AI, Stanford University)

## Projects

### Image Analysis: Skin Detection

Spring 2024

- Collaborated within a team to develop a Python-based skin detection tool for dermatological applications, using the numpy, cv2 and matplotlib libraries.
- Enhanced existing algorithm by refactoring code for improved readability and ease of use, and supporting asynchronous image processing for decreased runtime.
- Constructed a ground truth data set and implemented a Metrics class to calculate algorithm performance.

### Huffman Compression and Hamming Encoding, Decoding

Spring 2024

- Crafted bit manipulation projects in C, focusing on string/ bit processing and memory management, using getopt and makefiles.
- Built Huffman coding for text compression and Hamming coding for error-corrected text file encoding/decoding.

### AI Gesture Recognition for Naval Operations

Fall 2023

- Developed a gesture recognition system in Python to classify naval airplane handling signals, hosted on Google Colab for team collaboration.
- Used pandas and numpy for data preprocessing and KMeans clustering to generate insight of gesture data.
- Displayed various models' performance from scikit-learn with ROC-AUC scores and confusion matrices, achieving second place in class presentation.

### Memory Debugging Monitor Replication

Fall 2023

- Developed memory management functions for a simulated embedded system, enabling precise read/write operations to memory addresses.
- Configured cross-compilation for memory protection analysis on Linux and SAPC environments.

## Work Experience

### Waitress and Line Cook

2015 - 2024

Newport Creamery, Mokban Korean Bistro, Balance Patch

- Communicated actively with customers and staff to ensure customer satisfaction and timely, attentive service.
- Managed workflow by prioritizing tasks by urgency and importance to enhance efficiency.
- Applied conflict resolution techniques to maintain a positive, professional atmosphere in high-stress situations.