

Nikki Phach

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Skills

Python, TypeScript/ JavaScript, HTML, CSS, React, SQL, Git/ GitHub, XState, Responsive Web Design, TailwindCSS, Java, C, Data Structures/ Algorithms, Unit Testing, Vitest, Linux/ Unix, npm, Docker, Web Scraping, Data Processing/ Visualization, Database Design, Machine Learning, NumPy, Scikit-learn, Pandas, Web Scraping, APIs, Zod, Racket, LaTeX, Agile Methodologies

Education

University of Massachusetts Boston

May 2024

B.Sc in Computer Science

Supervised Machine Learning: Regression and Classification

January 2024

Coursera (DeepLearning.AI, Stanford University)

Projects

Kotoba Tag! github.com/npkach/kotoba-tag

- Wrote a Python scraper to build a Japanese vocab dataset of >5000 words and >7000 definitions.
- Organized data in a Turso database with a structured schema modeling vocab-definition relationship.
- Developed syllable-matching logic in Typescript according to game rules with Vitest unit tests.
- Used XState to define a state machine that models gameplay logic and manage game states.
- Created a responsive React UI with timer, text input, and word history.

Personal Website npkach.github.io

- Created website hosted on GitHub with a responsive design using TypeScript, TailwindCSS and HTML.
- Used React hooks to create cursor-trailing animation in hero.
- Implemented contact form with zod validation and EmailJS API.

Image Analysis: Skin Detection

Spring 2024

- Researched color analysis in skin detection, color spaces and techniques in dynamic thresholding.
- Enhanced existing Python algorithm by refactoring for improved readability, ease of use and relevance.
- Implemented asynchronous image processing for decreased runtime.
- Contributed to a dataset of skin-mask images used for testing.
- Created Metrics class to calculate algorithm performance, yielding a skin detection accuracy of 98%.

AI Gesture Recognition for Naval Operations

Fall 2023

- Processed hand gesture data using pandas and numpy to generate insight features for classification.
- Compared and presented classification model performance in a collaborative Jupyter notebook.

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 service.
- Managed workflow by prioritizing tasks by urgency and importance to enhance efficiency
- Used conflict-resolution techniques to maintain a positive atmosphere in high-stress situations.