Nikki Phach

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Skills

TypeScript, Python, React, XState, SQL, TailwindCSS, @shadcn/ui, Vitest, Zod, NumPy, Scikit-learn, Pandas, Responsive Web Design, Docker, npm, HTML5, CSS, C, PyTorch, Machine Learning, Computer Vision, Natural Language Processing, Data Structures/ Algorithms, Unit Testing, Web Scraping, JavaScript, Data Processing/ Visualization, Git/ GitHub, Database Design, APIs, Racket, LaTeX, Java, Linux/ Unix, 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! **kotoba-tag.com**

- Implemented answer validation with 95% accuracy by training a language model on 4M+ text pairs.
- Deployed a React application with an XState machine that manages game states and core gameplay.
- Created a FastAPI endpoint to offload model inference and send predictions to game client.
- Implemented syllable matching logic in TypeScript according to game rules validated by Vitest unit tests.
- Detailed rules and project objectives in comprehensive README as a reference and design document.

Personal Website **nphach.github.io**

- Created website hosted on GitHub with a responsive design using HTML, TailwindCSS, @shadcn/ui.
- Used Canva to design a rudimentary layout template for website components.
- Designed cursor-trailing animation in the hero section using React hooks.
- Implemented contact form with Zod validation and the EmailJS API.

Image Analysis: Skin Detection Spring 2024

- Collaborated with client and team during weekly scrum meetings to adjust plans and refine objectives.
- 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 asyncronous image processing for decreased runtime.
- Used Photoshop to contribute to a dataset of skin-mask images used for testing.
- Created Metrics class to calculate algorithm performace, 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.