

Richard Álvarez

rawalvarez731@gmail.com / GitHub / raulduke.com / Chicago, Illinois

About Me

I am a researcher and web developer combining experience in filmmaking, machine learning, and visual design to create engaging digital experiences and amplify meaningful stories. I have created over 17 unique open-source projects and authored two papers with over 400 cumulative downloads. I also enjoy reading, listening to music, visiting local theaters, and cycling.

Education

New York University (NYU) Tandon School of Engineering

Master of Science in Computer Engineering

Brooklyn, New York

Aug 2025

Kenyon College

Bachelor of Arts in Film; GPA: 3.4/4.0

Gambier, Ohio

Aug 2020 – May 2024

Minor in History and Concentration in Integrated Program in Humane Studies

Authored two papers on machine learning applications in creative industries. Produced and edited over 15 experimental video projects, including music videos, audio-reactive visualizations, and short films.

Relevant coursework includes Senior Research Seminar (IPHS 484), AI for the Humanities (IPHS 300), Advanced Post-Production (FILM 391), Data Structures and Program Design (SCMP 218), Digital Photography (ARTS 321), Sex, Drugs, Guns: Research Strategies in the Contemporary Age (INDS 140), and Software Development (SCMP 318).

Work Experience

IT Assistant

Library and Information Services (LBIS), Kenyon College · Part-time

Gambier, Ohio

Sep 2023 – Feb 2024

I supported campus-wide technology needs by preparing workstations, moving office tech, and securely erasing and recycling equipment. I restocked printers daily. I conducted classroom checks under the guidance of team members. I streamlined team projects by applying programming skills, in one instance by generating a spreadsheet of course meetings and classroom locations to determine when our techs could perform maintenance.

Video Editor

Kenyon College · Contract

Gambier, Ohio

Apr 2022 – May 2022

I condensed over 30 hours of interviews into a concise 10-minute recap for the John W. Adams Summer Scholars Program in Socio-Legal Studies. I crafted a polished visual presentation that adhered to Kenyon's Visual Identity System. I highlighted key interview themes while ensuring balanced representation of all participants. I delivered the final product on schedule in an optimized format, maintaining professional collaboration with the employer throughout the project.

Research Assistant

University of Chicago · Part-time

Chicago, Illinois

Aug 2018 - Nov 2019

I worked under Bernard Dickens III on an academic paper proposing strategies to protect against supply-chain attacks and ensure file integrity using advanced checksum technologies. I attended monthly code reviews and contributed 27 commits to the repository.

Publications

Unsupervised Deep Learning and PySceneDetect Analysis | [GitHub](#) | [Digital Kenyon](#) | May 23rd 2023

This research focused on analyzing short-format video editing trends by leveraging PySceneDetect and unsupervised deep neural networks. Advanced data visualization techniques, including t-SNE and PCA, were employed to uncover patterns and gain insights into the editing styles and trends prevalent in the dataset.

Certificates

CompTIA ITF+ Sep 2024

NYU Tandon Bridge Mar 2025

Skills

Technologies: React.js, Next.js, Tailwind CSS, Redux, Context API, React Native, Git, OpenCV

Backend & Databases: Node.js, MySQL, MongoDB

Development Practices: Agile, Scrum, CI/CD

Visualization: DaVinci Resolve, Tableau, Adobe Creative Suite, Blender

Machine Learning: Diffusion models, LoRA, LxMs, retrieval-augmented generation (RAG), fine-tuning LLMs

Websites

Machine Television

Online Store

[Visit Site](#)

Oct 2024

Developed a functional e-commerce platform for an independent skate brand. The site was built using Next.js and Tailwind CSS for an intuitive front-end, paired with Node.js for a robust back-end infrastructure. Integrated Stripe API for seamless payment processing, optimizing user workflows across desktop and mobile.

Joaquin Morales

Portfolio

[Visit Site](#)

Jan 2025

Designed and deployed a dynamic portfolio site for a professional cinematographer. The project used Next.js for high performance, with Tailwind CSS for responsive design. Implemented a custom CMS to enable efficient content updates, managing galleries and testimonials with ease. Leveraged DigitalOcean S3 storage for scalability and fast load times for video and photo content.

GREasyVocab Flashcards

Web App

Jul 2024

Created a personalized GRE vocabulary tool powered by OpenAI's APIs. The application leverages LangChain to provide personalized prompts tailored to user inputted data. Developed a secure full-stack system with user authentication and database management, ensuring a smooth and customized learning experience.

Additional Projects

A Retrieval-Augmented Film Recommendation System | [GitHub](#) | [Digital Kenyon](#) | May 8th 2024

This project utilized LangChain's OpenAI integration to dynamically generate queries based on user preferences, showcasing the potential of advanced AI and machine learning in digital entertainment. The Retrieval-Augmented Film Recommendation System was developed using Node.js and integrated with the OMDb and TMDb APIs to enhance movie metadata, delivering precise and personalized recommendations.

AI-Driven Kubrick-Inspired Film Script Generation | [GitHub](#)

Designed and developed an AI pipeline to generate film scripts inspired by Stanley Kubrick's cinematic style. Leveraging Dust.tt and Large Language Models, I created a custom API to enable dynamic and stylistically consistent script generation. This project demonstrated the potential of generative AI for creative industries, producing scripts that emulated Kubrick's distinctive narrative and thematic characteristics.

Sentiment Analysis of Rotten Tomatoes Reviews | [GitHub](#)

Conducted a sentiment analysis of user reviews from Rotten Tomatoes to evaluate the psychology of movie consumers and the reliability of the platform's 'freshness' indicators. Using VADER and the NLTK library, I processed text data by filtering stop words, tokenizing reviews, and extracting sentiment scores. The analysis revealed that 73 of user reviews aligned with their assigned 'freshness' labels, validating both the reliability of Rotten Tomatoes user ratings and the effectiveness of the VADER sentiment analysis tool. Findings were presented in detailed visual reports, highlighting correlations between sentiment and user ratings.