Richard Álvarez

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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 — Brooklyn, New York
Master of Science in Computer Engineering — Aug 2025

Kenyon College — Gambier, Ohio
Bachelor of Arts in Film; GPA: 3.4/4.0 — 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 — Gambier, Ohio
Library and Information Services (LBIS), Kenyon College · Part-time — Sep 2023 – Feb 2024
Provided front-line IT support to students and faculty, troubleshooting hardware and software issues across Windows and macOS systems. Managed ServiceNow tickets, ensuring timely resolutions. Assisted with classroom technology setup, printer maintenance, and peripheral configurations. Delivered remote support via remote-in tools and performed basic networking diagnostics.

LEGO STEM Instructor — Chicago, Illinois
Play-Well TEKnologies · Part-time — Oct 2024 – Dec 2024
Taught STEM-focused LEGO engineering classes, introducing mechanical and programming concepts to children. Adapted instruction to various learning styles and managed class engagement. Communicated effectively with parents and staff to ensure a structured learning environment.

Script Reader — Columbus, Ohio
Good Deed Entertainment · Internship — May 2022 – June 2022
Analyzed incoming screenplay submissions, evaluating narrative structure, character development, and commercial viability. Wrote detailed coverage reports summarizing strengths, weaknesses, and recommendations for acquisitions. Provided insights on potential projects, aligning with the company's content strategy.

Research Assistant — Chicago, Illinois
University of Chicago · Part-time — Aug 2018 - Nov 2019
Worked under Bernard Dickens III on an academic paper focused on cybersecurity and supply-chain attacks. Contributed 27 commits to repository code reviews. Explored cryptographic checksum verification methods to detect unauthorized software modifications.

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.

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

Certificates

CompTIA ITF+ Sep 2024 IT fundamentals, troubleshooting, hardware, networking basics

NYU Tandon Bridge Mar 2025 Discrete mathematics, data structures, algorithms, C++ programming

Websites

Machine Television Visit Site
Online Store 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 Visit Site
Portfolio 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.