Richard Álvarez

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

About Me

I am a researcher and web developer combining experience in filmmaking, computation, and visual design to create engaging digital experiences and amplify meaningful stories. I am interested in building and using tools to enhance creative workflows, drawing on my background in academic research and computer programming. I have created over 17 unique open-source projects and authored two papers with over 400 cumulative downloads. I excel in producing professional video content, building software, and conducting thorough online research. 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*
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 — Gambier, Ohio
Kenyon College · Contract — *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 — Chicago, Illinois
University of Chicago · Part-time — *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. This role taught me how to communicate and collaborate professionally in the cybersecurity context.

Publications

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.

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

Programming: Python, JavaScript/TypeScript, SQL, C/C++
Frameworks: Next.js, React, Tailwind CSS, Scikit-Learn, Keras, pandas, NumPy, LangChain
Visualization: DaVinci Resolve, Tableau, Adobe Creative Suite, Blender
Open-Source Research: Maltego, Google Dorking, metadata analysis, reverse image search, social media monitoring
Machine Learning: Diffusion models, LoRA, LxMs, retrieval-augmented generation (RAG), fine-tuning LLMs

Websites

Machine Television | **Visit Site** Oct 2024
Online Store
Developed a functional e-commerce platform for 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** Jan 2025
Portfolio
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 | **Visit Site** Jul 2024
Web App
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.

Portfolio

Editor 2022 – Present
Freelance
- *Indie Sleaze* (2024) – Directed and produced senior thesis film, managing narrative structure and visual consistency.
- *Performing the Primitive* (2023) – Reviewed footage for Sam Pack.
- *Summer Legal Scholar Recaps* (2022) – Produced professional video content for Ric Sheffield, refining footage for clarity and engagement.

Music Video Producer 2020 – Present
Various Collaborations
- *trees* by GRAYS (2023)
- *Live, Laugh, Kill* by JvneBvg (2022)
- *Rick and Morty* by Black Yoshi (2021)
- *Poltergeist* by 5ouley (2021)
- *No Rulez* by InVoid (2021)
- *Ghosts* by Undercurrent (2020)

Script Supervisor July 2024
Jasmine
Maintained narrative and technical consistency on set.

Production Assistant May 2024
Shopping for Superman
Assisted on-set logistics and maintained production schedules.