Kian Zohoury

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EDUCATION

University of California, Berkeley | **May 2022**

B.A., Computer Science | *Berkeley, CA*

- Major GPA: 3.51/4.0; Regents' and Chancellor's Scholarship

- *Relevant Coursework:* Data Structures, Deep Neural Networks, Discrete Math & Probability, Efficient Algorithms, Intro to AI, Intro to ML, Linear Algebra & Differential Equations, Machine Structures, Multivariate Calculus, Natural Language Processing, Principles & Techniques of Data Science

SKILLS

- *Languages*: Python, Java, C/C++, SQL, JavaScript, HTML/CSS, LaTeX
- *Libraries/Frameworks*: PyTorch, NumPy, Scikit-Learn, OpenCV, Pandas, Scipy, Matplotlib, Django, JQuery, React
- Technologies: GCP, AWS
- *Other*: Git, testing, debugging, API/documentation, visualizations

PROJECTS

Music Source Separation | PyTorch, Torchaudio, NumPy, Poetry, Sphinx

- Packaged an ML toolkit for training deep convolutional autoencoders that isolate *stems* (e.g. vocals) from songs.
- Reduced performance bottlenecks via architectural upgrades (e.g. latent space regularization & self-normalizing networks) and optimizations (e.g. mixed precision & GPU-accelerated BSS evaluation).

Artistic Style Transfer | PyTorch, Torchvision, MTCNN, OpenFace

- Implemented an efficient ResNet style transfer model that transforms images using an artistic style.
- Achieved high qualitative results by preserving human faces, image color and pixel smoothness.

Face ID | PyTorch, Torchvision, MTCNN, PyNNDescent

- Engineered a small, dual-task facial verification/recognition pipeline using a deep CNN (inspired by FaceNet).
- Utilized triplet loss (with hard negative mining) to train on processed images, and approximate nearest neighbor search (PyNNDescent) for recognition.

Recycling Assistant | PyTorch, Torchvision, React Native, Django

- Prototyped a web app with four classmates that utilized image classification to better identify recyclable goods.
- Harnessed React Native to implement a compelling UI, and Django to deploy a pretrained model that was optimized for recycling classification ($\sim$90% accuracy) via transfer learning.

EXPERIENCE

Freelance | **July 2016 – Dec. 2018**

Mix Engineering | *Los Angeles, CA*

- Applied technical methods in mixing and mastering, learned through a year-long accredited music program in Los Angeles (Icon Collective), to assist vocal artists and music producers in releasing industry quality music with reputable independent record labels.