

Ellington Kirby

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Software Engineer and Machine Learning Researcher. Searching for a new opportunity as a Machine Learning Engineer or Research Engineer. Proven track record adapting to new challenges, solving complex problems, and being a great coworker.

EDUCATION

• PSL University

Masters in Machine Learning - Artificial Intelligence, Systems, Data (IASD)

Paris, France

September 2023 - 2024

Courses Include: Convex, Non Convex, Distributed, and Large Scale Optimization; Learning Theory; Online Learning; Deep Learning for Computer Vision; Large Language Models; Reinforcement Learning Theory; Data Science Project Lab

• Université Paris Dauphine-PSL

Masters in Computer Science and Math - Information, Decisions, Data - 15.996 GPA

Paris, France

September 2022 - May 2023

• Binghamton University, State University of New York

Bachelor of Science in Computer Science

Binghamton, NY

2012-2016

RESEARCH EXPERIENCE

3D Object Generation with Diffusion in a Data limited setting

April 2024 - September 2024

Valeo AI, Paris, France

- Using Image-to-Image pre-training to augment 3D understanding of a diffusion model in an autonomous driving setting.
- Deep review of literature on LiDAR generation, 3D Shape generation, 2D to 3D distillation, diffusion applied to supervised tasks.
- Trained large diffusion transformers on multiple GPUs to benchmark against sparse convolutional networks in 3D generation.
- Built LiDAR diffusion in-painting pipeline to establish scene scale generative baseline.

Extension of Leiden Algorithm for Graph Clustering

June 2023 - September 2023

GRETTIA Lab, Université Gustave Eiffel, Champs-sur-Marne

- Improved upon classical community detection algorithms in order to identify patterns in urban traffic conditions.
- Developed LSTM and VAE models for trajectory prediction and generation on highway data.

Integration of Structured Knowledge by Specialized Text Synthesis: [link](#)

February 2023

- Second author on paper fine tuning bi-directional language models using Unified Medical Language Systems.

HearHere: smartphone based audio localization using time difference of arrival: [link](#)

October 2016

- First author on demonstration of on device audio localization algorithm, presented at Mobicom 2016
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WORK EXPERIENCE

Zenly (Snap Inc.), Software Engineer - Android

Paris, FR

Android Engineer on the Conversations Team

February 2020 - July 2022

- Built and maintained dozens of new features across the Zenly application, including Voice Notes, Video Messages, Emoji Spam, Link Previews, and many other features, used by tens of millions of users daily.
- New features contributed to a 33% increase in daily Zenly chat usage, scaling to millions of messages sent per day.
- Led low level investigations to reduce first frame draw time of chat application by 20% leading to a smoother user experience.
- Prototyped Deep Learning methods for audio to animated lip sync synthesis leading to French Research Tax Credit.

FanDuel, Android Engineer

New York, NY

Lead Android Engineer at DRAFT, a Fantasy Sports gaming app, later acquired by FanDuel

October 2017 - January 2020

- Lead and solo Android Developer on DRAFT fantasy sports app

Prolific Interactive, Android Engineer

New York, NY

Mobile Agency

October 2016 - October 2017

- Android engineer for multiple projects
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Open Source Contributions:

- [Lidar Scene Completion via Diffusion: LiDiff](#): Contributed simple enhancement to use GPUs in pre-processing scripts, forked to re-train the model to reconstruct scenes and in-paint new objects.
 - [Rinascimento Splendor Framework](#): A framework to train game playing AI on the Splendor board game. Helped with the build system and added the current best performing RAVE algorithm.
 - [Python Tweet Preprocessor](#): Tool for removing tweet contents from text. Added utilities for file processing.
 - [LinkedIn LiTr Video Transcoding](#): Extended fragment shader to allow implementation of video shaders. Created Grayscale shader
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SKILLS

Programming Languages: Python, Kotlin, Java, C++, Go, C#

Technologies: PyTorch, Numpy, Pandas, HF Transformers, Diffusers, Android OS,

Language: English, French

Personal Interests: Cooking, Guitar, Game Design, Science Fiction and Fantasy literature, exploring France