Cindy Trinh

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Education

Ecole Normale Supérieure (ENS) Paris-Saclay	Oct 2019 – Dec 2020
Master's degree in "Mathematics, Vision, Machine Learning" ("MVA") - with honors	*Paris, France*
Ecole Centrale de Lille	Sep 2016 – Sep 2019
Master of Engineering in "Data Science" and "Applied Mathematics" - GPA: 3.63/4	*Lille, France*

Experience

Research Intern — Jul 2020 – Nov 2020

CentraleSupelec – Supervisor: Prof. Richard Combes — *Paris, France*
- Designed a new multi-player multi-armed bandits algorithm which outperforms state-of-the-art algorithms
- Implemented and benchmarked all state-of-the-art algorithms of multi-player multi-armed bandits in **Python, Cython**

AI Developer Intern — Apr 2019 – Jul 2019

Wintics – Startup in Computer Vision which analyzes urban video streams — *Paris, France*
- Developed a pipeline for fine-tuning neural networks in **Python, Bash, Pytorch** which halved the speed of the process
- Prototyped a parking slot detector using **Python, OpenCV, Pytorch** destined to be showcased to potential customers
- Conducted a literature review and benchmarked state-of-the-art video object tracking algorithms
- Improved the speed of detection and tracking programs by using **Cython**
- Automated the monitoring system of a mini-computer (Jetson Nano) using **Python, Bash**

Research Assistant — Dec 2018 – Jun 2019

Inria Lille, University of Lille, Team SequeL – Supervisor: Prof. Emilie Kaufmann — *Lille, France*
- Adapted Unimodal Thompson Sampling algorithm to apply it to Rank-one bandits
- Proved the optimality of Unimodal Thompson Sampling algorithm for Unimodal and Rank-one bandits
- Implemented and benchmarked state-of-the-art rank-one bandits algorithms in **Python, Julia**

Research Intern — May 2018 – Aug 2018

Heriot-Watt University – Supervisor: Prof. Marcelo Pereyra — *Edinburgh, UK*
- Implemented and benchmarked Monte Carlo Markov Chain (MCMC) algorithms for bayesian inference in **Matlab**
- Initiated experiments of combining Variational Auto-Encoders (VAE) to MCMC algorithms in **Python, Pytorch**

Side-Projects

Jokey, your fun buddy!
- Developed an adaptive recommender of jokes in **Python** using SVD (rating predictions) and LinUCB (online learning)
- Preprocessing and analysis of Jester dataset with **Pandas**

MLPerf (Open Source)
- Collaborated with a peer under the supervision of Prof. Janapa Reddi to write a script to process an image dataset so as to mimic features of another dataset using **Python**
- Writed parts of the paper "MLPerf Mobile Inference Benchmark: Why Mobile AI Benchmarking Is Hard and What to Do About It." *Vijay Janapa Reddi et al.*

First author Publications

- "Solving Bernoulli Rank-One Bandits with Unimodal Thompson Sampling." *Cindy Trinh, Emilie Kaufmann, Claire Vernade, Richard Combes.* Algorithmic and Learning Theory (ALT) 2020.

- "A High Performance, Low Complexity Algorithm for Multi-Player Bandits Without Collision Sensing Information." *Cindy Trinh, Richard Combes.*

Skills

Programming Languages: Python (Advanced), Java (Basics), C++ (Basics), Julia (Basics)
Data Science, Machine Learning: Scikit-learn (Intermediate), Pytorch (Basics), Tensorflow (Basics), SQL (Basics)
Languages: French (Native), English (Proficient), Chinese (Intermediate)