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 system in **Python** using SVD (rating predictions) and LinUCB (online learning)
- Benchmarked some Collaborative Filtering recommender algorithms
- 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)