CHEN Xi

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EDUCATION

CentraleSupélec   **Gif-sur-Yvette & Metz, France**
Engineering Courses in Data Science and Computer Science   Sep. 2020 – Oct. 2022
- **Scholarships:** CentraleSupélec Foundation Scholarships, 2020-2022.
- **Relevant Courses:** Machine Learning / Statistical Models / Advanced C++ Programming / Deep Learning / Reinforcement Learning

University of Lorraine   **Metz, France**
Master of Science in Computer Science: Optimization and Algorithms   Sep. 2021 – Oct. 2022
Relevant Courses: Computational Complexity Theory / Combinatorial Approximation Algorithms / Graph Theory / Global Optimization

Sun Yat-sen University   **Zhuhai, China**
Bachelor of Science in Nuclear Engineering   Aug. 2016 – Jun. 2020
- **Honors:** Excellent undergraduate thesis / Excellent Student Scholarships
- **Relevant Courses:** Mathematics / Physics / Machine Learning and Python / C Language Programming / Nuclear Science

WORK & PROJECT EXPERIENCE

Final year internship: Research on federated learning at CEA LIST
Convergence analysis of federated learning algorithms in the non-iid case   Apr. 2022 – Oct. 2022
- Conducted a literature review on data heterogeneity-resistant algorithms such as SCAFFOLD.
- Implemented an experiment framework in PyTorch to evaluate convergence rates of algorithms on heterogeneous data.
- Study theoretically on proofs of convergence guarantees of algorithms in the non-iid setting.
- Propose alternative solutions for the processing of non-iid data in the federated framework.

PFE: Research on low energy neural networks at Georgia Tech - CNRS
Deep network classification by scattering and echo-state networks   Oct. 2021 – Mar. 2022
- Conducted literature research on scattering transform and echo-state networks.
- Implemented the two modules in PyTorch and applied them in tandem to image classification of CIFAR-10.
- Tested model performance in different settings and investigated the effect of hyperparameters.

Internship: AutoKernel Program of OPEN AI LAB
Development of an automatic search module for code generation   Jan. 2021 – Aug. 2021
- Studied Halide, a programming language for high-performing tensor calculations.
- Developed a tool for automatically generating Halide codes from hardware characteristics and tensor calculations.
- Applied a neural network to estimate the performance of generated code found by using beam search in search spaces.

PUBLICATION

Three-Dimensional Modeling of Thermal-Mechanical Behavior of Accident Tolerant Fuels[J]. Frontiers in Energy Research, March 2021.

SKILLS

Language: English (C1: IELTS 7.5) / French (DELF B2) / Chinese   **Programming:** Python / C++ / SQL
BigData: MapReduce / Hadoop / Spark / HFDS   **ML&DL:** PyTorch / Scikit-Learn / TensorFlow / Xgboost / Pandas
DevOps: Docker / Kubernetes / Kafka / GitHub