Zineb ZIANI

November 16, 1992 | Paris | ziani.zineb.zz@gmail.com | 06.43.42.32.70

EXPERIENCE

ANOTHERBRAIN | AI Research Engineer
Feb 2025 – Currently | Paris

- Designing a cortical-inspired module for real intelligence, based on the structure of cortical columns.
- Conducting research on a memory-based recognition system inspired by biological mechanisms, using image descriptors.

RIKEN CENTER FOR COMPUTATIONAL SCIENCE
Visiting Researcher | AI and HPC Engineer
July 2024 – Oct 2024 | Tokyo - Japan

- Leveraging Parallel Deep Learning and Spectral Methods, including RNNs, GCNs, and MLP, for Advanced Parallel Anomaly Detection on the Fugaku Supercomputer.

RIKEN CENTER FOR COMPUTATIONAL SCIENCE
Visiting Researcher | AI and HPC Engineer
June 2023 – Sept 2023 | Kobe - Japan

- Optimized AI anomaly detection framework on the supercomputer Fugaku, leveraging Python and gaining global-scale insights in HPC.

NUMERYX TECHNOLOGIES | AI and HPC Engineer
Dec 2021 – Jan 2025 | Paris

- Deploying anomaly detection solutions by combining machine learning and deep learning models with the "Unite and Conquer" HPC strategy, leveraging parallel processing on large datasets to enhance speed and accuracy.
- Integrating this framework into a SOAR system and deploying it into production.

ORANGE | Machine Learning Engineer
Feb 2021 – Aug 2021 | Caen

- Study and evaluation of training methods allowing to reduce the size of a model, like LSTM and BERT while at the same time maintaining its statistical efficiency, by addressing "transfer learning", "distillation", "quantization" among others.

MICROLIGHT 3D | 3D Geometric Modelling Engineer
May 2020 – Aug 2020 | Grenoble

- implement a new "slicing" method in order to limit the manufacturing volume and bring consistency with mechanical strength by using geometry libraries in C ++.

PUBLICATIONS

Enhancing the Parallel UC2B Framework: Approach Validation and Scalability Study
24^{th} International Conference on Computational Science; Springer 2024
Unite and Conquer with Bagging-Boosting "UC2B" for Enhanced Anomaly Detection
2024 IEEE International Conference on Progress in Informatics Computing
A Parallel and Asynchronous Approach for Anomaly Detection
2024 IEEE International Conference on Big Data
A Novel Approach to Parallel Anomaly Detection: Application in Cybersecurity 2023 IEEE International Conference on Big Data

EDUCATION

PhD in Mathematics Informatics
AI and HPC for enhanced anomaly detection Feb 2022 - Jan 2025 | University of Paris-Saclay, Paris
• Enhancing threat detection through data science, parallel computing, and supercomputers for more effective incident management.

MSc In Industrial an Applied Mathematics | Data Science
2019 - 2021 | UGA-ENSIMAG, Grenoble
• Advanced learning Models
• Machine learning • NLP
• fundamentals of probabilistic data mining • Statistical analysis and document mining • Category learning and object recognition • Computing science for Big Data and HPC
• Applied probability and statistics.

Licence de Mathématiques Fondamentales
2017 - 2019 | Uinversity of Grenoble-Alpes, Grenoble
• Topology • Statistics • Algebra
•Numerical modeling • PDE
• Integral calculus & probability.

SKILLS

• Python and R Programming
• Machine & Deep Learning Frameworks
• Natural Language Processing (NLP): Autoencoders, Transformers
• Vulnerability Analysis & Detection
• High-Performance Computing: Supercomputers, Clusters, Parallelism
• Linux command-line operations, job management and monitoring
• SLURM and PJM for job scheduling and resource allocation
• Skilled in managing and optimizing HPC compute nodes and storage.

CONFERENCES

Committee Chair of IEEE BigData
Reviewer : ICCS 2023, ICCS 2024, ICCS 2025, IIAI AAI 2023, IIAI AAI 2024, IIAI AAI 2024-Winter

LANGUAGES

French, English, Arabic.