

# ZHAO Chao

Skilled and interested in Data Science, AI and Cloud  
A combined background in engineering and computer science  
Open-mind, results-oriented, humble person

**English:** Fluent & C1 | **French:** Intermediate & B2 | **Chinese:** Native speaker & C2

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**Tech Stack** **Databases** : MySQL, PostgreSQL, MongoDB | **BI** : Power BI, Office Pack | **Big Data/Cloud** : Airflow, Elasticsearch, Spark, AWS, Azure | **Data Science** : NumPy, Pandas, Matplotlib, R | **ML/DL** : Scikit-learn, Pytorch, Tensorflow, Keras | **Semantic Web** : Ontological, Protégé, NGS-LD | **Programming** : Python, Linux, GitHub, HTML, CSS, PHP, JavaScript

**Education** **Engineer Diploma of Data Intelligence**  
ISEP - Institut supérieur d'électronique de Paris Sept 2023 - Oct 2025  
**Bachelor of Building electrical and intelligence**  
Shenyang Jianzhu University (China) Sept 2014 - Jun 2018

**Professional Experience** **Intern Full Stack R&D – Optimization by Digital Twin (DT) for EV Infrastructure (EVI)**  
Institut Polytechnique de Paris – École nationale des ponts et chaussées May 2025 - Oct 2025

- Conducted literature review on **semantic modeling, DT, and EVI**
- Compared different frameworks to identify suitable system architecture
- Built a **NGSI-LD based DT**, to manage both static and dynamic data
- Designed and tested an **optimization scenario** for EVI based on DT

**Tech manager of building electrical and intelligence team**  
Haituo Construction Engineering Corporation Ltd. Jul 2018 - Jun 2023

- Optimized technology solution, surpassing profit targets by \$550,000 in 2022
- Led an international team of 14 members, earning 'Level-A' performance evaluation in 2022
- Authored two internal research papers, contributed to two company-level guidelines based on TIA/EIA-568 and ISO/IEC 11801, received € 500 as manuscript fee

**Code Competition** **3rd Prize "Hackathon Fr 2024"** Mar 2024

- Award : 600 euros (Team of 4 members)
- Goal : Secure the route of the Olympic flame in terms of radio coverage
- My responsibility : Designed and implemented a **weighted Dijkstra**-based path planning system to achieve optimal routing

**School Project** **Big Data & Cloud – Sales Data Analytics** May 2024

- Deployed **data lake** on **AWS**
- Called **APIs** to extract raw 'JSON' files, cleaned and formatted 'JSON' to 'Parquet' files
- Indexed data** in Elasticsearch, created **dashboard** in Kibana
- Managed and scheduled the entire workflow with **Airflow**

**Parallel Computing & Deep Learning –**  
**Ultra-Large Size Medical Images Segmentation And Classification** Jan 2025

- Split ultra-large 'svs' or 'tif' image into more than 8000 tiles
- Applied **OTSU's** image thresholding and **Canny** edge detection for each tile
- Trained **U-Net** model for segmentation and **EfficientNet** for classification, F1 score: 0.92
- Integrated all processes into a **parallel computing pipeline** in Spark

**Data Analysis & Machine Learning – Bankruptcy Prediction** Oct 2024

- Explored distribution and the correlation of features by **unsupervised learning**
- Applied **re-sampling** to the highly imbalanced dataset
- Applied different **supervised learning models**, and **tuned hyperparameters**
- Evaluated different models by **F1 scores** and **ROC curve**