# TAGHADOUINI Said

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## Professional Experience

- **BNP PARIBAS Cardif** — Paris, France
  *Data Scientist Intern* — *April 2023 - September 2023*

  Developed and implemented advanced OCR models tailored to accurately recognize handwritten and digital text within scanned documents, resulting in a 40% improvement in recognition accuracy.
  - Utilized state-of-the-art models to optimize system performance and reduce inference time.
  - Developed text-to-image generation models employing latent diffusion models and GANs for handwritten image generation, resulting in a significant boost of model performance.
  - Integrated the developed solution into the existing Intelligent Document Processing pipeline, enhancing document processing efficiency by adding support for handwritten documents.

- **Zaion** — Paris, France
  *Data Scientist Intern* — *February 2022 - August 2022*

  Developed a robust method for predicting wait times in call center queues using sequence models, including RNN, LSTM, and TCN.
  - Implemented a sequence modeling approach for wait-time prediction, resulting in a remarkable 50% reduction in Mean Absolute Error (MAE).
  - Utilized Monte Carlo Dropout to assess and quantify the uncertainty of predictive models.
  - Applied BERT-based models to predict customer churn by analyzing textual data from client-bot conversations.

- **RTE** — Paris, France
  *Data Scientist Intern* — *May 2021 - October 2021*

  Designed an algorithm to estimate the risk of failures in electrical grid components by leveraging machine learning and statistical techniques.
  - Conducted extensive data preprocessing and extracted valuable insights from a substantial dataset comprising millions of electrical grid data.
  - Developed a robust algorithm for calculating failure risk for various grid components, contributing to more informed decision-making and proactive maintenance strategies.
  - Created an interactive web application to facilitate user-friendly utilization of the risk estimation algorithm, enhancing accessibility and usability for stakeholders.

## Education

- **École Centrale de Lyon** — Lyon, France
  *Engineering degree - Computer Science* — *2019 - 2023*

  ***Main courses:*** *Probability theory, Stochastic Processes, Applied Statistics for Engineering Sciences, Time Series forecasting, Introduction to financial mathematics, Advanced Tools for Learning; Convexity & Sparsity, Machine Learning, Operations research and Optimization, Collaborative algorithms, Web applications, Numerical methods for PDEs.*

- **Université Claude Bernard Lyon 1** — Lyon, France
  *Master of Science in Data Science* — *2022 - 2023*

  ***Main courses:*** *Machine Learning, Deep Learning and Artificial Intelligence, Probabilistic Graphical Models, Computer Vision, Reinforcement Learning, Natural Language Processing.*

## Projects

- **Deep Dream - Neural Style Transfer**: Implement Neural Style Transfer (NST) to transfer the style of one source image to another while keeping its content. The VGG19 model is used for extraction of low-level features (Style) and high-level features (Content).
- **RIG-Chess - Reinforcement Learning with Imagined Goals (RIG) for Chess**: Unsupervised representation learning and reinforcement learning of goal-conditioned policies applied to the game of chess. A generative model, VAE, is used to generate chess configurations that will serve as goals that the agent is going to try and reach.
- **Natural language to regular expression**: Building a model to translate natural language sentences into valid regular expressions. The first version of the project uses an LSTM-based Encoder-Decoder architecture.

## Skills Summary

- **Computer Vision**: Transformers, CNN, Object detection, Image Segmentation, Self-supervised learning, Visual NLP (OCR, LayoutLM, Donut), Generative models(GAN, Diffusion, etc)
- **Machine Learning**: PCA, SVM, K-means, Random forest, Bayesian models, Ensemble methods...
- **Languages**: Python, R, Matlab, C/C++, SQL, Bash
- **Frameworks**: OpenCV, Numpy, Pandas, PyTorch, Keras, JAX, Scikit-learn, pytest
- **Tools**: Docker, Git, AWS, Azure, Linux