Julien VERON VIALARD

Senior Applied Machine Learning Scientist at Splunk with experience in conducting research and collaborating with product teams.
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WORK AND RESEARCH EXPERIENCE

Splunk **August 2021 – Present**
Senior Applied Machine Learning Scientist **San Francisco, USA**

- Approximate grouped quantiles on key-value streams to answer queries of the form "top N keys ranked by quantile q".
- Named Entity Recognition for threat actors and malwares in unstructured cybersecurity data using a fine-tuned BERT-based model. Currently being shipped into Splunk's Intelligence Management product.
- Translate natural language to SPL (Splunk's query language) using a fine-tuned Transformer-based model. Started as a research collaboration with NVIDIA's Morpheus team and shipped as an add-on available on Splunk's marketplace.

Guerbet **June 2020 – September 2020**
Research Scientist (Intern) **Paris, France**

- Supervised prediction of perfusion maps from temporal perfusion sequences of the brain even in low-dose regimes of contrast agent using a modified U-Net convolutional model. Proposed architecture achieves SOTA on a public dataset.

Stanford University **January 2020 – June 2021**
Graduate Research and Teaching Assistant **Stanford, USA**

- Stanford Center for Biomedical Informatics Research. Advised by Dr. Hah, Prof. Efron and B. Narasimhan. Identified baseline and follow-up mood factors contributing to time to opioid and time to pain cessation in a longitudinal clinical study.
- Teaching assistant in CME 106: Introduction to Probability and Statistics for Engineers (Winter 2020, Prof. Khayms).

Elefant Sciences **January 2019 – May 2019**
Data Scientist (Intern) **Salt Lake City, USA**

- Designed a statistical factor model for profit and losses explanatories and risk management, used in production.

Alpstone Capital **July 2018 – December 2018**
Quantitative Researcher (Intern) **Geneva, Switzerland**

- Implemented trading strategies for Equity Index options. Designed supervised models for strategy allocation process.

PUBLICATIONS, PATENTS AND CONFERENCES[1]

- Co-authored 1 published patent (WO/2022/129633) and 4 in-review patents.
- "High Rollers: Approximate Top Grouped Quantiles on Streams". Submitted (March 2023) to VLDB 2023.
- "Perioperative Psychological Factors, Remote Opioid Cessation and Pain Resolution among Patients Undergoing Total Joint Arthroplasty – A Prospective Cohort Study". Submitted (March 2023) to PAIN.
- Splunk .conf22 (June 2022). "Large Language Model for Query Generation on NVIDIA Morpheus" (PLA1152C). Similar talk at NVIDIA GTC 2022 (March 2022, S41688). Authored a technical Splunk Blogs post alongside conferences.
- IEEE ISBI 2021 (April 2021). "Going Beyond Voxel-Wise Deconvolution in Perfusion MRI with StU-Net" (WePMP3.10), and "A Lightweight Method to Simulate Low-Dose DSC-Perfusion Sequences" (WePMP3.9).

EDUCATION

Stanford University **September 2019 – June 2021**
Master of Science; Computational and Mathematical Engineering **Stanford, USA**

- Natural Language Processing with Deep Learning, Convolutional Neural Networks for Visual Recognition, Applied Statistics, Convex Optimization, Probabilistic Graphical Models, Discrete Mathematics, Mining Massive Data Sets, Causal Inference.

Ecole Centrale Paris **September 2016 – June 2019**
Master of Science; Engineering **Paris, France**

- Applied Mathematics and Statistics, Statistical Physics, Machine Learning, Algorithms, and Software Engineering.

COMPUTER SKILLS AND LANGUAGE

- Expert in Python (NumPy, SciPy, Pandas, scikit-learn, PyTorch). Proficient in R (RStudio), SQL (PostgreSQL), Ubuntu, AWS, and Microsoft Azure. Prior experiences in C++, Java, and Julia.
- French (native), English (fluent), Spanish (intermediate).

[1] Visit my personal website https://jvialard.github.io/research/ for more information.