Yunlong Jiao

Machine Learning Researcher

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ABOUT ME

I am a machine learning researcher passionate about uncovering hidden patterns in data and advancing innovative technologies through AI. I am particularly skilled in representation learning and generative probabilistic modelling with large-scale complex data.

WORK EXPERIENCE

CURRENT, FROM NOV 2017

Postdoctoral Research Scientist

University of Oxford, Oxford, UK

- Methodological ML on scalable multi-view learning with massively and structurally missing data.
- Applied ML/statistics in medical biology on: **1)** Trajectory analysis for complex chronic disease progression. **2)** Longitudinal and multi-dimensional omic data integration. **3)** Collaborative filtering-based comorbidity inference with healthcare AI application.

SEP 2013 – SEP 2017

Doctoral Researcher

Mines ParisTech & Institut Curie, Paris, France

- Methodological ML on: **1)** Representation learning with highly structured data (incomplete rank data and graph signal processing). **2)** The profound implication of these representations in kernel-based ML methods, sparsity regularisation, social choice theory.
- Bioinformatics applications on: **1)** Improved molecular prognosis of breast cancer. **2)** Robust biomarker discovery guided by biological networks.
- Thesis deliverables including: **1)** Several high-impact publications in top ML conferences/journals. **2)** A kernel-based ML toolkit (written in R/C++) for analysing rank data and solving biomedical tasks.

MAR 2016 – JUN 2016

Visiting Researcher

Centro de Investigación Príncipe Felipe, Valencia, Spain

- Project on data-driven feature extraction based on network analysis of signalling pathway activities, leading to interpretable feature selection for improved breast cancer survival prediction.

APR 2015 – JUN 2015

Data Analyst Intern

Roche Diagnostics GmbH, Penzberg, Germany

- Project on failure state prediction and preventive maintenance alerts for automated analysers by monitoring machinery routine performance and mining large-scale unstructured data.
- European patent application filed in December 2016.

SELECTED PUBLICATIONS

CONFERENCES **ICML** 2018 / 2016 / 2015

JOURNALS **IEEE TPAMI** 2018
Molecular Informatics 2017

All selected publications are first-authored.

EDUCATION

2013 – 2017 **Doctor of Philosophy**
Centre for Computational Biology
Mines ParisTech, Paris, France

2012 – 2013 **Master of Science** (HIGHEST MENTION)
Department of Mathematics
University of Paris XI, Orsay, France

2008 – 2012 **Bachelor of Science** (FIRST CLASS HONOURS)
Department of Mathematics
University of Science & Technology of China

AWARDS & DISTINCTIONS

JAN 2019 **Volunteer Tutor** (with Prof. J.-P. Vert)
at the African Master's in Machine Intelligence

2013 – 2016 **Early Stage Researcher Fellowship**
in Machine Learning for Personalised Medicine
funded by the EU 7th Framework Programme

NOV 2013 **Runner-up** (team collaboration)
in DREAM 8 Toxicogenetics Challenge

AUG 2011 **Honorable Mention** (top 15 nationwide)
in S.-T. Yau College Student Mathematics
Contest – Probability and Statistics Sector

PROFESSIONAL SKILLS

PROGRAMMING Python (GPy, TensorFlow), R, C++, Bash

BIG DATA Parallel Computing, SQL

ML/STATISTICS SPECIALTIES Kernel Methods (Gaussian Processes), Deep Generative Models (VAEs), Multi-view, Multi-task, Multi-fidelity, Time Series Forecasting, Massively Missing Data, Computational Biology

LANGUAGES

NATIVE Chinese

FULLY PROFICIENT English (CEFR Certified Level C2)

CONVERSATIONAL French (Level B1), Spanish (Level A2)

REFERENCES

CURRENT LINE MANAGER **Prof. Chris Holmes**
University of Oxford & The Alan Turing Institute

DPHIL SUPERVISOR **Prof. Jean-Philippe Vert**
Google Brain & Mines ParisTech

Contact details available upon request.