CELINE BEJI

PhD Student in Machine Learning working in Causal Inference. I have developed a strong entrepreneurship mindset, supported by my company experience in project management and my extracurricular activities in organisation policy and strategy. I aspire to lead a stimulating entrepreneurial project while contributing to research and innovation.

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RESEARCH EXPERIENCE

Ph.D. Student in Machine Learning

MILES, LAMSADE (CNRS), Dauphine-PSL (Paris Science & Lettres) University

At the present time Paris, France

Formalization of causal inference as a missing data problem to estimate the counterfactual outcomes. Exploration of statistics methods and advances in machine learning to determinate the distribution of the hidden causal distribution.
- Counterfactual estimation state of the art review (more than 50 models).
- Proposition and submission of a parametric method based on EM algorithm and a non-parametric method using an Auto-Encoder architecture.
- Experimentation on synthetic and real-life datasets in small and large scale.

Publications:

- **Beji C., Benhamou E., Bon M., Yger F., Atif J.: Estimating individual treatment effects through causal populations identification. In: Esann (2020)** -pdf- GitHub
- **Beji C., Yger F., Atif J.: Non-parametric estimation of causal populations in a counterfactual scenario. (Inproceedings)**

Internship in Statistical Computing & Biostatistics

Department of clinical pharmacology, King's College London

Feb 2012 – Aug 2012 London, UK

Implementation of IT tools to analyze blood pressure and flow waveforms in the arteries, to study the movement of blood coming and going to the heart.
- Study of wave intensity statistical methods.
- Development of algorithms that identify cardiac cycles (tested in matlab) and a software package in java in collaboration with doctors.

Mention: Excellent

WORK EXPERIENCE

Actuarial Analyst

CEGC (Compagnie Européenne de Garanties et Cautions), Natixis, BPCE Group

Jan 2013 – Mar 2017 Paris, France

Statistics and risk analysis, automatic decision and internal model development.
- Automatization of weekly and monthly reports, creation of decision support tools for individuals, professional and corporate markets, projection of the turnover and premium estimation (21% in customer credit in France).
- Implementation of the data quality system for the internal model validated by the ACPR accreditation in 2017 (Data mapping, preparation and leading of the head committee, projects follow-up and management).

EDUCATION

Master of Science in Mathematics and Data Science

Dauphine-PSL (Paris Science & Lettres) University / ENSAE (École Nationale de la Statistique et de l'Administration Économique)

Sep 2012 – Sep 2013 Paris, France

Courses: Parametric and non-parametric Bayesian statistics; Data mining; Hidden markov models; Monte Carlo method; Duration models; Hidden variable dynamic statistical models; Risk measurement.

Master of Engineering in Electrical and Computer Science

ENSEA (École Nationale Supérieure de l'Électronique et de ses Applications)

Sep 2009 – Sep 2012 Cergy-Pontoise, France

Graduate Specialization: Signal processing; Data Analysis; Biostatistics; Image processing; Medical imaging; Acquisition systems; Sensors and conditioning.

Preparatory Cycle in Mathematics and Physics (Maths Sup/Spé MP)

Camille Pissarro High School

Sep 2006 – Sep 2009 Cergy-Pontoise, France

TEACHING

Paris Dauphine-PSL University (MIDO & LSO)

Mar 2017 – Aug 2021 Paris, France

- Machine learning (L3 Data Science)
- Data analysis (L3 Computer Science)
- Python programming (L2)
- Introduction to algorithmic and Python programming (L1)
- IT website tools: HTML, cls,... (L1)

Three years in doctoral contract and one in ATER.

EXTRACURRICULAR ACTIVITIES

2020-2021: Student entrepreneur, supported by PSL in a DeepTech project (PSL-Pepite).

2019-2020: Research entrepreneurial student program that develop entrepreneurial, innovation and leadership skills (PSL-iTeams).

2018-2020: One year as president of a student association of 75 members and two years as a member of the board of directors.

2019-2021: Representative of PhD students in the doctoral school SDOSE (decision-making committee for doctoral policy).

SOFT SKILLS

- Leadership, Adaptation and Innovation
- Intellectual curiosity & Strong desire to learn
- Positive emotions, Sociable and Emphatic
- Organized and Conscientiousness

COMPUTER SKILLS

Python | C/C++ | Java | R | VBA | SQL | HTML | SAS | Github | Linux | Latex | Matlab | Bloomberg | Microsoft Office

LANGUAGES

French
English
Spanish, Arabic

REFEREES

Prof. Jamal Atif, PhD advisor
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Dr. Florian Yger, PhD supervisor
@ florian.yger@dauphine.psl.eu