Alexandre Bouayad

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SELECTED WORK EXPERIENCE

2020−Present. Head of Artificial Intelligence, Alma, Paris, France

- Set the mission, vision and strategy of Alma AI, articulating it from research to product.
- Leads a team of PhDs and software engineers applying data science and ML to solve high-impact problems.
- Invented a new encoding technique for categorical features (submitted for publication to ICML 2022).
- Modelled a 100-gigabytes graph neural network using techniques from topological data analysis.
- Launched an original scoring system that led to a company-wide profit increase of 20%.

2013−2018. Director of Studies in Mathematics, University of Cambridge, UK

- Member of the Department of Pure Mathematics and Mathematical Statistics.
- Fellow of St John's College.
- Member of the Faculty of Mathematics's governing body.
- Undertook a research program around a common formal framework for classical and quantum algebraic theories.
- Raised St John's College among the top three colleges of Cambridge in mathematics.
- Lectured a wide range of undergraduate and graduate courses (from statistics to algebraic geometry)
- Supervised Master and PhD students, and directed various research projects.

2012−2012. Postdoctoral Fellow, Harvard University, US

- Member of the Harvard Mathematics Department.
- Nominated for a Junior Fellowship at the Harvard Society of Fellows.
- Worked on a quantum version of the geometric Langlands correspondence.

EDUCATION

2009−2013. PhD, Mathematics, École Polytechnique, France

- Graduated with highest distinction ("Mention Très Honorable").
- Joint supervision with the Université de Paris.
- Advisors: Prof. David Hernandez and Prof. Marc Rosso.

2016. Master of Arts, University of Cambridge, UK

- Admitted to the degree of Master of Arts as senior member of academic staff.

2009. Master's degree, Mathematics, École Polytechnique, France

- Graduated with highest distinction ("Mention Très Bien").

2005−2009. ENS Diploma, Science, École Normale Supérieure de Lyon, France

- Normalien élève.
- Fields of study: Mathematics, Computer Science, Physics.
- Agrégation of Mathematics (2008).

SELECTED AWARDS

2012	Nomination for a Junior Fellowship, Society of Fellows, Harvard University, US.
2012	Research Grant, Fondation Sciences Mathématiques de Paris, France.
2009	PhD Fellowship, École Normale Supérieure, France.
2005	Normalien Scholarship, École Normale Supérieure, France.

TECHNICAL SKILLS, SERVICE

- Programming: Python, SQL, some C, some functional programming (SML/OCaml/Haskell).
- Machine learning: NumPy, SciPy, pandas, scikit-learn, TensorFlow/Keras, PyTorch, MLflow, some Kubeflow.
- Systems: Unix, Git, Docker, cloud computing, some Kubernetes.
- Service: reviewer for top AI and mathematics jour (e.g., AISTATS, ICML, zbMATH).