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I am a postdoctoral researcher at ENS Lyon in the CASH team (Inria), under the supervision of Nicolas Tabareau and Cyril Cohen. I work on the integration of large language models with proof assistants (Rocq and Lean 4).

My current research focuses on automatic theorem proving and translation between proof assistants. I am exploring several aspects of this direction:

- **Crrrocq** (repository): a model trained to use retrieval, reasoning, and feedback from Rocq to generate proofs step by step.
- **Babel-formal: Translation of Proofs between Lean and Rocq** (under review, repository): a model trained to translate proofs between Rocq and Lean by using proof terms as a pivot language, and also experiments with transferring proof styles (e.g., vanilla Rocq to MathComp's SSReflect tactics).
- **LLM4Docq: Bootstrapping Documentation for MathComp with LLMs and Expert Feedback** (rocqshop@ITP, repository): a project focused on creating a dataset of docstrings for MathComp with expert feedback, and training models for auto-formalization (translation of informal statements into formal ones) and annotation (formal statement into informal statement).

During my PhD (2019–2024), I spent one year in industry (2023–2024) as a Research Scientist in generative AI at Jumbo Mana, where I trained and deployed AI pipelines for interactive applications (cultural mediation, entertainment), including speech recognition (ASR), speech synthesis (TTS), and large language models. This experience gave me practical insights into building AI systems that work in real-world contexts. I co-led Bonjour Vincent project @Orsay Museum, Felon-E video game, presented @Gamescom 2023, and @PGW 2023.

Normalien, studied mathematics at ENS Paris-Saclay, agrégé de mathématiques (national rank 24), completed my PhD under the supervision of Christian Gérard in mathematics (LMO).

4.B Previous Experience

4.B.1 Professional Experience

Jan 2025 - Present | Postdoctoral Researcher
CASH Team, ENS Lyon (Inria) - Supervisors: Cyril Cohen, Nicolas Tabareau

- Development and training of cross-proof-assistant translation models and automated documentation generation for MathComp.
- Development and training of an automatic theorem proving model.
- Participation in the "Lean Wit It, Rocq Wit It" project funded by Renaissance Philanthropy.

Sep 2019 – Sep 2024 | Ph.D. in Mathematics
University Paris-Saclay, Laboratoire de Mathématiques d'Orsay - Supervisor: Christian Gérard

- Thesis: *Hadamard states for Dirac fields on curved spacetime*.
- Developed advanced mathematical tools in PDE, microlocal analysis, and quantum field theory.
- Published in **Letters in Mathematical Physics** and **Reviews in Mathematical Physics**.

Jan 2023 - Feb 2024 | Research Scientist in Generative AI
Jumbo Mana, Strasbourg

- Co-led **"Bonjour Vincent"** (Orsay Museum, Amazon Alexa), an AI-powered cultural mediation avatar.
- Co-developed **"Felon-E"** (Gamescom, Paris Games Week), an interactive AI-based game.
- Designed and deployed AI pipelines for multi-modal human-machine interaction in cultural contexts.

4.B.2 Teaching Experience

Sep 2019 – Sep 2022 | Teaching Assistant - *Polytech Paris-Saclay*

- 192 hours of undergraduate mathematics teaching (+100 students) with Associate Professor Rémi Leclercq
- Covered calculus, linear algebra, and applied mathematics for engineering students

Sep 2018 – Jul 2020 | Oral Examiner ("Colleur") in Mathematics - *Classe préparatoire MPSI/MP, Lycée Charlemagne, Paris*

- Conducted weekly (2h/week) oral examinations for competitive entrance preparation to French Grandes Écoles

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4.C Education

4.C.1 Main Education

- **Ph.D. in Mathematics (defense: 21/03/2024)** - University Paris-Saclay, France (2019–2024)
  Hadamard states for Dirac fields on curved spacetime - Supervisor: Christian Gérard.
- **ENS Paris-Saclay Diploma** (2019)
- **M2 AMS - Analysis, Modelling, Simulation** - University Paris-Saclay (2018–2019)
- **M2 MEEF - Agrégation in Mathematics** - ENS Paris-Saclay (2017–2018) - National competitive examination for teaching in higher education and preparatory classes (national rank: 24)

4.C.2 Additional Courses and Training

- NVIDIA Deep, *Model Parallelism: Building and Deploying Large Neural Networks* (2023)
- *Type Theory* (M2MA, ENS Lyon), D. Pous
- *Mathematical Components Lectures* (M2MA, ENS Lyon), C. Cohen
- *Lean Proof Assistant Lectures* (Ph.D. level, ENS Lyon), F. Nuccio

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4.D.1 Awards and Grants

- **2024** - Special Prize for Technical Innovation, *Privacy-preserving AI Hackathon* (Zama x Entrepreneur First x Hugging Face, 50 participants)
- **2022** - Ph.D. Award, Fondation Mathématiques Jacques Hadamard (FMJH)
- **2016/2017** - Excellence Grant, Fondation Mathématiques Jacques Hadamard (FMJH)

4.D.2 Participation in Funded Projects

- **Postdoctoral Researcher**, *Learning and Rocq'ing,* National project (France) led by G. Baudart, C. Cohen, N. Tabareau and M. Lelarge, funded by Renaissance Philanthropy ($1M)

4.E Scientific Output

4.E.1. Deep Learning Publication/Ongoing work

1. T.Stoskopf*, J. Viennot*, G. Baudart, M. Lelarge, *Crrrocq***, github.com/LLM4Rocq/crrrocq (2025)**

2. T. Stoskopf, C. Cohen, N. Tabareau, *Babel-formal: Translation of Proofs between Lean and Rocq*, **github.com/LLM4Rocq/babel-formal (2025), under review**
3. T. Stoskopf, J. Viennot, C. Cohen, *LLM4Docq: Bootstrapping Documentation for MathComp with LLMs and Expert Feedback***, github.com/LLM4Rocq/LLM4Docq, rocqshop@ITP 2025**

4.E.2. Mathematics Publication

4. C. Gérard, T. Stoskopf, *Hadamard property of the in and out states for Dirac fields on asymptotically static spacetimes*, **Lett. Math. Phys.** (2022), DOI: 10.48550/arXiv.2108.11955, 10.1007/s11005-022-01556-9.
5. C. Gérard, T. Stoskopf, *Hadamard states for quantized Dirac fields on Lorentzian manifolds of bounded geometry*, **Rev. Math. Phys.** (2022), DOI: 10.48550/arXiv.2108.11630, 10.1142/S0129055X22500088.

4.E.3. Workshops

- **2025 –** RocqShop, ITP, LLM4Docq
- **2025** - Rocq'n'Share, Inria Paris, LLM4Docq

4.E.5. Software Output

- *Bonjour Vincent,* AI cultural avatar (Amazon Alexa 2024, Orsay Museum 2023)
- *Felon-E,* AI-based game (Gamescom 2023, Paris Games Week 2023)
- *Emmanuel Delran's Avatar (*CMA-CGM 2024)

4.E.6. Talks

- **2025 -** LCIS Scientific Day, Grenoble INP-UGA
- **2025** - AI and Mathematics Conference, PSL University Paris, hands-on session
- **2025** – AI Summit Action GenerationIA (Mathadata), Mines Paris -PSL
- **2024** – Piscine AI, POC Innovation
- **2022** - GR Reading Group, Jussieu, *Quantum Field Theory and Hadamard States on Curved Spacetime*
- **2021** - GT des doctorants ANH et ANEDP, Orsay, *QFT for Dirac Fields in Curved Spacetime*
- **2019** - Physics and Mathematics, Fourier Institute, Grenoble, *QFT in Curved Spacetime*

4.F.1 Outreach and Public Engagement

- **2023–2024** - Co-led *Bonjour Vincent* (AI avatar for Musée d'Orsay)
- **2023–2024** - Co-led *Felon-E* (AI based video game, showcase at Gamescom 2023, and PGW 2023)
- **2025** - MathAData (AI Summit Action), Mines Paris-PSL

4.G.1 Organizing committees

- **2025-Present** – Rocq'Band, ENS Lyon
- **2020-2022** – Séminaire des doctorants LMO, Paris-Saclay University