Guillaume Frèche
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🔍 Highlights

Apply my expertise and experience in signal processing and telecommunications.

- Engineering and teaching experience for 6+ years.
- 2 Engineering Masters: Georgia Tech (Top 5 USA) and Supelec (Top 5 France).
- Interested in signal processing, telecommunications and machine learning.

💼 Professional experience

Mathematics and Science Teacher   Since Jan. 2017
Bordeaux and Toulouse areas, France

- Middle school and high school levels.
- Passed the mathematics teacher certification exam in July 2018
  (Top 160 over 2000+ candidates).
- Preparation for the certification exam for highschool and university professors
  (Agrégation de Mathématiques).

Research Assistant   May 2013 — Dec. 2016
Laboratoire UMI2958 Georgia Tech-CNRS, Metz, France

- Advisors: Michel Barret (CentraleSupélec), Matthieu Bloch (Georgia Tech)
- Subject: Near lossless data compression with low complexity encoder; application to
  spectral imagery.
- Keywords: compression, transform coding, LDPC codes, polar codes, parametric estimation.

Instructor   Aug. — Dec. 2016
Georgia Tech Lorraine, Metz, France

- ECE 3084 - Signals and Systems.
- Scope: lecture preparation, distance learning sessions recording, homeworks and exams
  writing and grading.
- Keywords: Fourier transform, sampling, Laplace transform, control.

Teaching Assistant   Jan. 2013 — Jan. 2015
Supélec, Metz, France

- Georgia Tech:
  - ECE 3084 - Signals and Systems - Tutoring and grading.

- CentraleSupélec:
  - Introduction to Signals and Systems (Junior year) ;
  - Probabilities (Junior year) ;
  - Statistical signal processing (Senior Year).

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Internship   June - Nov. 2012
Laboratoire UMI2958 Georgia Tech-CNRS, Metz, France

- Subject: Comparison of distributed source coding and transform coding methods for hyperspectral imagery.

🎓 Education

Georgia Institute of Technology (**Georgia Tech**)   2011-2013
Master of Science in Electrical and Computer Engineering   Atlanta, USA

- Concentration: Signal Processing, Telecommunications
- GPA: 4.0/4.0

Ecole Supérieure d'Electricité (**Supelec**)   2009-2012
Engineering degree; Interactive Systems and Robotics   Paris area, France

- Concentration: Signal Processing, Machine learning

📝 Publication

FRÈCHE, Guillaume, BLOCH, Matthieu R., et BARRET, Michel. Polar codes for covert communications over asynchronous discrete memoryless channels. *Entropy*, 2017, vol. 20, no 1, p. 3.

⚙️ Skills

Languages	French (mother tongue); English (fluent); German (basic)
Programming	MATLAB, Python, C++, Mathematica
Productivity	Microsoft office, Open Office, Latex, Keynote