JULES GOMEL

+33638561942 ◇ Toulouse, FRANCE

jules.gomel@isae-supaero.fr ◇ linkedin.com/in/julesgomel/ ◇ julesgl.github.io/site

OBJECTIVE

PhD Student at ISAE-Supaero researching neuromarkers of visual information encoding and Brain-Computer Interfaces. Passionate about advancing neuroengineering through innovative research in human-computer interaction and signal processing.

EDUCATION

Master of Neuroengineering and Signal Processing, ISAE-Supaero (FRANCE)   2024

Bachelor of Mathematics, Physics and Engineering science, ISAE-Supaero (FRANCE)   2018 - 2021

SKILLS

Technical Skills	Python, JavaScript, EEG Signal Processing, Machine Learning, Experimental design
Soft Skills	Teamwork, Communication, Leadership, Passion

EXPERIENCE

PhD Student   Dec 2024 - Present
ISAE-Supaero under the supervision of Dr Frederic Dehais   *Toulouse, FRANCE*

- Researching EEG neuromarkers for visual information integration using advanced signal processing and machine learning techniques.

Research Engineer   Oct - Nov 2024
ISAE-Supaero under the supervision of Dr Frederic Dehais   *Toulouse, FRANCE*

- Development of real-time feedback for the BCI of the lab. Conducted an experiment to evaluate the subjective effect of this feebdack.

Research Intern   Mar - Sep 2024
ISAE-Supaero under the supervision of Dr Frederic Dehais   *Toulouse, FRANCE*

- Developed multiple features for the lab's BCI system, now actively used for research and development, including real-time visualization and performance evaluation.

Research Technician   Mar - Aug 2023
Drexel University, under the supervision of Dr Hasan Ayaz   *Philadelphia, PA (USA)*

- Benchmarked the performance of Generative Adversarial Networks (GANs) for recovering missing fNIRS data, demonstrating limitations compared to autoregressive models and interpolation techniques.

PROJECTS

Contribution to Timeflux Published new features to the Timeflux BCI open-source framework.

EXTRA-CURRICULAR ACTIVITIES

- Organized vulgarization conferences about neuroergonomics at ISAE-Supaero.

- 2nd place, Neuroergonomics 2024 Passive BCI Hackathon.

PUBLICATIONS

- Effects of visual pre-decision feedback on user experience and decoding performance in cVEP-Burst BCI **(In preparation)**

- Performance Evaluation of Generative Models for fNIRS Data Imputation **(In preparation)**

- Assessing spatiotemporal and quality alterations in paretic upper limb movements after stroke in routine care: Proposal and validation of a protocol using IMUs versus MoCap **(Acknowledged)**