Eva GUTTMANN-FLURY

Looking for a **Postdoc** in Neuroscience

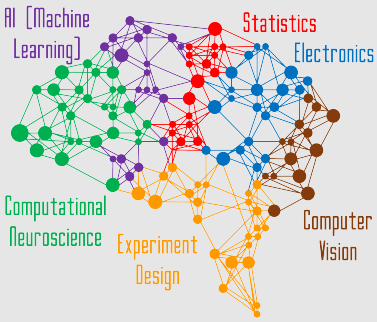
About me

Deep interest in unraveling the intricacies of the brain through the development of advanced parameterized algorithms based on solid mathematical foundations. Bridging the realm of BCI with my other hobbies (Chinese culture and music) represents a captivating challenge.

Areas of specialization

- Brain-Computer Interface
- Electroencephalography
- Signal processing
- Artifact correction
- Pattern recognition

Technical Skills



Soft Skills

- Autonomous
- Goal Oriented
- Analytical
- Innovative
- Curious
- Driven

Contact

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Experience

2016–2023 — **PhD in Computational Neuroscience (Brain-Computer Interfaces)**
Shanghai Jiao Tong University · Shanghai, China

- ✓ Recorded a unique multimodal dataset (using EEG/EMG/EOG, eye-tracker, and high-speed camera) based on an innovative a priori sample size estimation to ensure sufficient data collection (63 sessions)
- ✓ Designed a novel fast blink correction algorithm and implemented a new source localization-based feature extraction method coupled with a dual classifier using Riemannian geometry, outperforming alternative machine learning methods with an accuracy of 94%. Real-time source localized data employed with deep learning neural networks instead of direct EEG is endeavored to reduce artifact influence and computational time
- ✓ Developed improved quantitative and visual methods for accuracy estimation and confusion matrix representations. The applicability of these original statistical tools extends far beyond EEG-based BCI
- ✓ Contributed to post-stroke rehabilitation using TMS and BCI-controlled robotics with > 3 health practitioners from Huashan Hospital and 4 subjects

2013 — **6-month internship in Process Improvement**
Airbus (EADS company) · Nantes, France

- ✓ Conducted process improvement study for stiffened (composite) panels tests with an international team of > 10 colleagues from 3 countries

2012 — **3-month internship in Innovative Research**
Sant'Anna School of Advanced Studies · Pisa, Italy

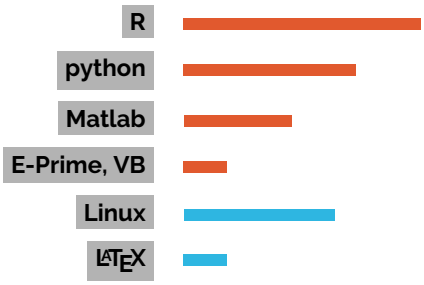
- ✓ Designed an underwater robot adapted to electrolocation

Education

2016 — **Robotics and Mechanical Engineering**
Ph.D. · SJTU

2013 — **Control Engineering and Industrial Data Processing**
M.S. · IMT Atlantique

Programming



Awards

2016 "Outstanding Foreign Student" Chinese Gov't Scholarship

Talks

Aug. 2016 "Preliminary Results of a Blink Correction Adaptive to Blinks", at: *38th IEEE EMBS (EMBC'16)* in Orlando, USA

Jan. 2024 "Blink Correction for EEG signals", at: *Beijing Uni*

Publications

2022 *Channel selection from source localization: A review of four EEG-based brain–computer interfaces paradigms*, Behavior Research Methods

2019 *A new algorithm for blink correction adaptive to inter- and intra-subject variability*, Computers in Biology and Medicine

2019 *A priori sample size determination for the number of subjects in an EEG experiment*, 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)

2019 *Preliminary results on a new algorithm for blink correction adaptive to inter- and intra-subject variability*, 9th International IEEE/EMBS Conference on Neural Engineering (NER)

Languages

FR	mother tongue
EN	C2
ZH	C1
IT	A2
RU, ES, DE	notions

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