

# Hassan Ismail Fawaz, MSc

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🌐 <https://hfawaz.github.io>

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🌐 <https://scholar.google.com/citations?user=oUrGNaoAAAAJ>

## Employment History

- 2017 – 2020 **PhD candidate.** IRIMAS, Université Haute Alsace, France.
- 2018 – 2020 **Lecturer.** ENSISA, Université Haute Alsace, France.
- 2017 – 2017 **Internship.** Data Services & Valorisation for Business, Orange Labs, France.
- 2016 – 2017 **Internship.** TICKET Lab, Université Antonine, Lebanon.
- 2016 – 2016 **Freelance.** Website development - [www.mradmcc.com](http://www.mradmcc.com).
- 2015 – 2015 **Internship.** Web application development, Dar El Handasah, Lebanon.

## Education

- 2017 – 2020 **Ph.D. Machine Learning, Université Haute Alsace, France**  
*Temporal data analysis with surgical data science application.*
- 2016 – 2017 **M.Sc. Computer Science, Université de Bourgogne, France**  
*Second Class Honours. Databases & Artificial Intelligence.*
- 2011 – 2017 **M.Sc. Software Engineering, Université Antonine, Lebanon**  
*Fourth Class Honours. Software & Telecommunications Engineering.*

## Research Publications

### Journal Articles (accepted)

- 1 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A.** (2019a, August). [Accurate and interpretable evaluation of surgical skills from kinematic data using fully convolutional neural networks.](#) *International Journal of Computer Assisted Radiology and Surgery*. Code is available on <https://github.com/hfawaz/ijcars19>.
- 2 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A.** (2019b, January). [Deep learning for time series classification: a review.](#) *Data Mining and Knowledge Discovery*. Code is available on <https://github.com/hfawaz/dl-4-tsc/>.
- 3 Forestier, G., Petitjean, F., Senin, P., Despinoy, F., Huauilmé, A., **Ismail Fawaz, H., ... Jannin, P.** (2018, September). [Surgical motion analysis using discriminative interpretable patterns.](#) *Artificial Intelligence in Medicine*, 91, 3–11.

### Conference Proceedings

- 1 **Ismail Fawaz, H., Forestier, G., Weber, J., Petitjean, F., Idoumghar, L., & Muller, P.-A.** (2019). [Automatic alignment of surgical videos using kinematic data.](#) In *Artificial Intelligence in Medicine*. Acceptance rate is 21%. Code is available on <https://github.com/hfawaz/aime19>.
- 2 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A.** (2019c). [Deep Neural Network Ensembles for Time Series Classification.](#) In *IEEE International Joint Conference on Neural Networks*. Code is available on <https://github.com/hfawaz/ijcnn19ensemble>.

- 3 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A. (2019d).** [Adversarial Attacks on Deep Neural Networks for Time Series Classification](#). In *IEEE International Joint Conference on Neural Networks*. Code is available on <https://github.com/hfawaz/ijcnn19attacks>.
- 4 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A. (2018a).** [Evaluating surgical skills from kinematic data using convolutional neural networks](#). In *Medical Image Computing and Computer Assisted Intervention*. (Oral selection rate 4%). Code is available on <https://github.com/hfawaz/miccai18>.
- 5 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A. (2018c).** [Transfer learning for time series classification](#). In *IEEE International Conference On Big Data*. Selection rate **18.9%**. Code is available on <https://github.com/hfawaz/bigdata18>.

## Workshops

- 1 **Ismail Fawaz, H., Forestier, G., Weber, J., Idoumghar, L., & Muller, P.-A. (2018b).** [Data augmentation using synthetic data for time series classification with deep residual networks](#). Code is available on <https://github.com/hfawaz/aaltd18>.

## Skills

Languages	■ English (TOEIC-955), French (B2), German (B1) & Arabic.
Development	■ Python, Java & Slurm Workload Manager.
Databases	■ MySQL, Neo4J, Protégé & Elasticsearch.
Web Dev	■ HTML, CSS, JavaScript, Apache Web Server & Tomcat Web Server.
Misc.	■ Academic research, teaching, $\text{\LaTeX}$ typesetting & publishing.

## Miscellaneous Experience

### Grants

- 2019 ■ **Mésocentre of Strasbourg.** [1.6 million GPU computing hours](#).
- 2018 ■ **Mésocentre of Strasbourg.** [1.6 million GPU computing hours](#).
- 2017 ■ **NVIDIA Corporation GPU Grant.** [Quadro P6000](#).
- **Coursera Financial Aid.** [Deep learning speciality](#).

### Visiting researcher

- 2019 ■ **Sorbonne University.** [Jean-Yves Franceschi](#).
- **Open University of The Netherlands.** [Daniele Di Mitri](#).
- 2018 ■ **Wayne State University.** [Dr. Abhilash Pandya](#).

### Certifications

- 2019 ■ **Participation.** [Learning from Data Streams and Time Series](#).
- **Participation.** [International Conference on Computer Assisted Radiology & Surgery](#).
- 2018 ■ **Volunteering.** [IEEE International conference on Big Data](#).
- **Participation.** [International Summer School on Deep Learning](#).
- 2017 ■ **Participation.** Cisco CCNA 1, 2, 3 & 4.
- 2016 ■ **Participation.** Lebanese Collegiate Programming Contest.

## Miscellaneous Experience (continued)

- **Participation.** Advanced Programming & Algorithms Boot Camp.
- 2015 ■ **Participation.** Lebanese Collegiate Programming Contest.

### Awards

- 2018 ■ **IEEE International Conference on Big Data.** [Student Travel Award.](#)
- 2016 ■ **First place.** Université Antonine Programming Competition.
- 2015 ■ **Second place.** Université Antonine Programming Competition.

### Talks & presentations

- 2019 ■ **TsDays.** Apprentissage par transfert pour la classification de séries temporelles.
- 2018 ■ **French society of computer science.** What to do with your PhD ?
- **GDR-MADICS.** Interpretable evaluation of surgical skills.

### Teaching

- 2019 ■ **Web programming.** Engineering students in Computer Science - 24 hours.
- 2018 ■ **Deep Learning.** M.Sc. students in Computer Science - 20 hours.

### Conference committee

- 2019 ■ **ORASIS.** [Journées francophones des jeunes chercheurs en vision par ordinateur.](#)
- **AE.** [Biennial International Conference on Artificial Evolution.](#)

### Workshop committee

- 2019 ■ **AALTD.** [ECML/PKDD Workshop on Advanced Analytics & Learning on Temporal Data.](#)
- **OR.** [MICCAI Workshop on OR 2.0 Context-Aware Operating Theaters.](#)

### Reviewer

- 2019 ■ **IEEE TKDE.** [IEEE Transactions of Knowledge and Data Engineering.](#)
- **IEEE JBHI.** [Journal of Biomedical and Health Informatics.](#)
- **MICCAI.** [Medical Image Computing and Computer Assisted Intervention.](#)
- **IEEE/CAA JAS.** [Journal of Automatica Sinica.](#)
- **AIRE.** [Artificial Intelligence Review.](#)

### Open Source Projects

- 2019 ■ **sktime-dl.** [An extension package for deep learning with Keras for sktime.](#)