

Lauriane Aufrant

Military engineer & PhD in NLP

born: February 13, 1990 – French

☎ +33 (0)6 21 44 00 72

✉ lauriane.aufrant@polytechnique.org

Work experience

- 10/2019 – ... **ISO, AFNOR**, expert in French and international standardization committees for AI.
Contribution to 3 standards: AI, machine learning, robustness of neural networks.
Writing text proposals & building international consensus through oral debate.
- 01/2019 – ... **French Ministry of Defense, DGA – Computer Science division (Bruz)**, Artificial Intelligence expert.
Driving a focus group on identifying best practices in AI development, writing DGA guidelines for contracting and evaluating AI-based systems, raising awareness to AI and its new challenges.
Conducting literature surveys and feasibility studies for DGA's AI incubator.
CROSS-FIELDS TOPICS: XAI & model interpretability, attacks and defenses on AI (adversarial, poisoning, membership inference), data and model biases.
NLP-RELATED TOPICS: BERT family, information extraction, knowledge graphs.
- 2018 (1y) **French Ministry of Defense, DGA – Computer Science division (Bruz)**, Natural Language Processing expert (text, speech, OCR).
Project management (analysis of user needs, writing technical specifications, monitoring of development, system evaluation) for subcontracting NLP projects of various readiness levels, from PhD grants to operational system deployment.
Stimulation of the French defense-related community in NLP (state, academia, industry).
HIGHLIGHT TOPICS: machine translation, named entity recognition, summarization, text/speech language identification, speech recognition, issues with dialect processing.
- 2014 – 2017 **LIMSI-CNRS (Orsay)**, intern & PhD student in AI, with a specialization in NLP.
Focus on generalizing cross-lingual transfer to the most low-resourced languages (DGA grant).
TOPICS: cross-lingual transfer, dependency parsing, machine translation.
13 PAPERS, 2 AWARDS: from the doctoral school and from Paris Universities' Chancellerie.
- 2013 (4m) **SYSTRAN (Paris)**, research intern in natural language processing.
TOPICS: sentiment analysis, machine translation (mostly feature engineering).

Volunteer experience

- 2011 – ... **ArtifiX association**, VP, setting up professional fireworks (F4/T2 N2 certification).
- 2011 – 2014 **Binet Réseau, Rezel, École polytechnique's and Télécom ParisTech's associations** in charge of managing and maintaining their student local networks.

Education

- 2015 – 2018 **Paris-Saclay University (Orsay)**, PhD in artificial intelligence.
- 2013 – 2014 **University of Paris XI (Orsay)**, MSc in artificial intelligence (double degree).
- 2013 – 2014 **Télécom ParisTech (Paris)**, engineering degree in AI & embedded systems.
- 2010 – 2013 **École polytechnique (Palaiseau)**, MSc in CS at one of France's leading universities.
- 2007 – 2010 **Lycée Henri IV (Paris)**, intensive program before competitive entrance examinations.

Skills

Deep learning, traditional machine learning, symbolic AI, algorithmics & complexity theory

Programming Python, Perl, Scala, Java, C

less frequent PHP/MySQL, JavaScript, Prolog

Environments Linux (shell, git, LaTeX...)

Windows (Office pack)

Other interests

Languages: English (fluent), German (advanced), Japanese (intermediate), French sign language (notions).

Trekking bike.

Programming contests (Google Code Jam, volunteer at ICPC), functional and exotic programming languages.

Publications

DGA guidelines – diffusion under confidentiality constraints

- 2020 [FR] *Guide de recommandations pour la spécification et la qualification de systèmes intégrant de l'intelligence artificielle – second edition*. Main author.
- 2019 [FR] *Guide de recommandations pour la spécification et la qualification de systèmes intégrant de l'intelligence artificielle – first edition*. Main author.

PhD thesis

- ED STIC'18 *Training parsers for low-resourced languages: improving cross-lingual transfer with monolingual knowledge*.

Journals

- PBML'18 *PanParser: a Modular Implementation for Efficient Transition-Based Dependency Parsing*. L. Aufrant & G. Wisniewski.

Rank-A conferences with peer-reviewed proceedings

- COLING'18 *Quantifying training challenges of dependency parsers*. L. Aufrant, G. Wisniewski & F. Yvon.
- NAACL'18 *Exploiting Dynamic Oracles to Train Projective Dependency Parsers on Non-Projective Trees*. L. Aufrant, G. Wisniewski & F. Yvon.
- EACL'17 *Don't Stop Me Now! Using Global Dynamic Oracles to Correct Training Biases of Transition-Based Dependency Parsers*. L. Aufrant, G. Wisniewski & F. Yvon.
- COLING'16 *Zero-resource Dependency Parsing: Boosting Delexicalized Cross-lingual Transfer with Linguistic Knowledge*. L. Aufrant, G. Wisniewski & F. Yvon.
- NAACL'16 *Frustratingly Easy Cross-Lingual Transfer for Transition-Based Dependency Parsing*. O. Lacroix, L. Aufrant, G. Wisniewski & F. Yvon.

Other conferences and workshops with peer-reviewed proceedings

- CoNLL'17 *LIMSI@CoNLL'17: UD Shared Task*. L. Aufrant & G. Wisniewski.
- WMT'16 *The QT21/HimL Combined Machine Translation System*. J. Peter et al.
- WMT'16 *LIMSI@WMT'16: Machine Translation of News*. A. Allauzen et al.
- TALN'16 [FR] *Ne nous arrêtons pas en si bon chemin : améliorations de l'apprentissage global d'analyseurs en dépendances par transition*. L. Aufrant, G. Wisniewski & F. Yvon.
- TALN'16 [FR] *Apprentissage d'analyseur en dépendances cross-lingue par projection partielle de dépendances*. O. Lacroix, L. Aufrant, G. Wisniewski & F. Yvon.
- MLCL'16 *Cross-lingual alignment transfer: a chicken-and-egg story?* L. Aufrant, G. Wisniewski & F. Yvon.
- LREC'16 *Cross-lingual and supervised models for morphosyntactic annotation: a comparison on Romanian*. L. Aufrant, G. Wisniewski & F. Yvon.