

Jill-Jënn Vie

RIKEN AIP – Nihonbashi 1-4-1, Mitsui Building 15F, Chūō-ku – Tōkyō 〒103-0027, Japan
+33 6 42 62 39 74 vie@jill-jenn.net <https://jilljenn.github.io>

Interests

- Educational Data Mining, Crowdsourcing
- Optimizing Human Learning
- Recommender Systems, Cold-start

Skills

- Programming: Python, OCaml, R, C++
- Machine learning: numpy, scipy, scikit-learn, Tensorflow
- Web: Django, HTML5, JavaScript, Vue.js, PHP, SQL

Experience

Apr 2017 – current

Postdoctoral Researcher at RIKEN Center for Advanced Intelligence Project (AIP), Tokyo, Japan.

Oct 2016 – current Consulting at the French Ministry of Education.

PIX Project: certification of digital competencies. <https://pix.fr>

Education

Feb 2014 – Dec 2016 **PhD in Computer Science**, Université Paris-Saclay, France

Adaptive Testing using Cognitive Diagnosis for Large-Scale Learning

under the supervision of Yolaine Bourda, Fabrice Popineau, Éric Bruillard at CentraleSupélec & ENS Paris-Saclay.

PhD Prize: K2

Jul 2014 **Agrégation de mathématiques**, French diploma for higher education teaching.

Sep 2013 – May 2014 **MSc of Teaching in Mathematics** (Training for Higher Education Teaching).

Sep 2012 – Sep 2013 Started a MSc of Mathematics (Maths, Vision, Machine Learning). Validated 45 ECTS.

Sep 2009 – Sep 2012 **MSc of Computer Science** (Parisian Master of Research in Computer Science).

Sep 2010 **Normalien** at ENS Cachan, former ENS Paris-Saclay (admitted 2nd).

Sep 2008 – Sep 2009 **BSc of Computer Science** at ENS de Lyon.

Research Internships

2016 **PIX: Certification of Digital Competencies** with Benjamin Marteau, French Ministry of Education, Paris.

2013 **Search Through Comparisons** with Laurent Massoulié, Inria Microsoft-Research Centre, Palaiseau.

2011–2012 **Leakage-Resilient Spatial Encryption** with Michel Abdalla, ENS Paris.

2010 **Computerized Adaptive Testing with WIMS**, short internship with Jean-Pierre Boudine, Marseille.

2010 **Coupling Time in Markovian Queueing Networks**, with Bruno Gaujal, Inria Grenoble.

2009 **Around the Penrose Tiling**, short internship with Thomas Fernique, LIF, Marseille.

Teaching Experience

2016 **Writing CS mock exam materials** for preparing remotely the CAPES: French Math teaching competitive exam.

2016 **Teaching Assistant** of Algorithms in CentraleSupélec, campus of Châtenay-Malabry.

2015–2016 **Coach** of the ENS Paris-Saclay team at the ACM International Collegiate Programming Contest.

2015 **Supervisor** of two interns at Mangaki (Alexis Rivière & Dylan Tanguy).

2014 **Co-Founder** and **Trainer** at **Girls Can Code!**, a programming summer school for K-12 girls.

2012–2013 **Teaching Practical Lessons** of Caml Light, Lycée Louis-le-Grand, Paris.

2009–2011 **Oral examiner** in Mathematics, Lycée Sainte-Marie & du Parc, Lyon, Lycée Condorcet, Paris.

Publications

Books

- Ismael Belghiti, Roger Mansuy, and Jill-Jênn Vie. *Les clés pour l'info : ENS et Agrégation (option D)*. Calvage et Mounet, 2016
- Christoph Dürr and Jill-Jênn Vie. *Programmation efficace*. Ellipses, 2016
- Christoph Dürr and Jill-Jênn Vie. 高效算法. 竞赛、应试与提高必修128例. 人民邮电出版社, 2018
- Christoph Dürr and Jill-Jênn Vie. *Efficient Programming with Python. 128 Essential Algorithms for Coding Test Prep*. Cambridge University Press, 2019

Chapters

- Jill-Jênn Vie, Fabrice Popineau, Yolaine Bourda, and Éric Bruillard. “A Review of Recent Advances in Adaptive Assessment”. In: *Learning analytics: Fundamentals, Applications, and Trends*. Springer, 2017, pp. 113–142

Journal Articles

- Jill-Jênn Vie, Fabrice Popineau, Éric Bruillard, and Yolaine Bourda. “Automated Test Assembly for Handling Learner Cold-Start in Large-Scale Assessments”. In: *International Journal of Artificial Intelligence in Education* (2018), pp. 1–16. URL: <https://rdcu.be/G30H>
- Jill-Jênn Vie, Fabrice Popineau, Éric Bruillard, and Yolaine Bourda. “Utilisation de tests adaptatifs dans les MOOC dans un cadre de crowdsourcing”. In: *Revue STICEF, Volume 24, numéro 2, 2017* (2018). ISSN: 1764-7223. DOI: 10.23709/sticef.24.2.6

Conference Papers

- Jill-Jênn Vie and Hisashi Kashima. “Knowledge Tracing Machines: Factorization Machines for Knowledge Tracing”. In: *Proceedings of the 33th AAAI Conference on Artificial Intelligence*. (Taux d'acceptation : 1150/7095 = 16,2 %.) 2019, to appear. URL: <https://arxiv.org/abs/1811.03388>
- Sein Minn, Yi Yu, Michel Desmarais, Feida Zhu, and Jill-Jênn Vie. “Deep Knowledge Tracing and Dynamic Student Classification for Knowledge Tracing”. In: *Proceedings of the 18th IEEE International Conference on Data Mining*. 2018, pp. 1182–1187. URL: <https://arxiv.org/abs/1809.08713>
- Jill-Jênn Vie, Fabrice Popineau, Yolaine Bourda, and Éric Bruillard. “Adaptive Testing Using a General Diagnostic Model”. In: *European Conference on Technology Enhanced Learning*. (Taux d'acceptation : 26/145 = 18 %.) Springer. 2016, pp. 331–339
- Michel Abdalla and Jill-Jênn Vie. “Leakage-Resilient spatial encryption”. In: *International Conference on Cryptology and Information Security in Latin America*. Springer. 2012, pp. 78–99

Posters

- Jill-Jênn Vie, Fabrice Popineau, Françoise Tort, Benjamin Marteau, and Nathalie Denos. “A Heuristic Method for Large-Scale Cognitive-Diagnostic Computerized Adaptive Testing”. In: *Proceedings of the Fourth (2017) ACM Conference on Learning @ Scale*. ACM. 2017, pp. 323–326. URL: <https://github.com/jilljenn/las2017-wip/blob/master/poster-las2017.pdf>
- Jill-Jênn Vie, Fabrice Popineau, Jean-Bastien Grill, Éric Bruillard, and Yolaine Bourda. “Predicting Performance over Dichotomous Questions: Comparing Models for Large-Scale Adaptive Testing”. In: *8th International Conference on Educational Data Mining*. 2015

Workshops

- Jill-Jênn Vie. “Deep Factorization Machines for Knowledge Tracing”. In: *Proceedings of the Thirteenth Workshop on Innovative Use of NLP for Building Educational Applications*. 2018, pp. 370–373. URL: <https://arxiv.org/abs/1805.00356>

- Jill-Jênn Vie, Florian Yger, Ryan Lahfa, Basile Clement, Kévin Cocchi, Thomas Chalumeau, and Hisashi Kashima. “Using Posters to Recommend Anime and Mangas in a Cold-Start Scenario”. In: *2017 14th IAPR International Conference on Document Analysis and Recognition (ICDAR) – Second International Workshop on Comics Analysis, Processing and Understanding*. Vol. 03. Nov. 2017, pp. 21–26. URL: <https://arxiv.org/abs/1709.01584>
- Jill-Jênn Vie, Fabrice Popineau, Jean-Bastien Grill, Éric Bruillard, and Yolaine Bourda. “Prédiction de performance sur des questions dichotomiques : comparaison de modèles pour des tests adaptatifs à grande échelle”. In: *Atelier Évaluation des Apprentissages et Environnements Informatiques*. 2015

Professional Affiliations & Activities

Organizer Optimizing Human Learning 2018: Workshop eliciting Adaptive Sequences for Learning (WeASeL), collocated with Intelligent Tutoring Systems 2018.

Program Committee EDM 2019 (demos & posters).

Reviewer *IEEE Transactions on Learning Technologies*, *Journal of Educational Data Mining*, *SAGE Open*.

Organizations & Awards

April 2017 With the **Etalab Task Force**, the Prime Minister’s Office for open data: contributing to a report of recommendations and requirements of the algorithm that affects students to higher educational institutions.

2016–present **President of Mangaki**, a non-profit organization that promotes Japanese culture through an open-source recommender system in 5 languages. **Japanese Cultural Institute Prize 2016 winner**.

2015–2016 **Director** and **Writer** of *La Faute à l’algo* with Michel Blockelet, French TV sci-fi show about algorithms that take control of our lives. Broadcast on the channel Nolife.

2011–2013 **President of Prologin**, a non-profit organization that organizes a French national programming contest every year (similar to Google Code Jam, Facebook Hacker Cup). **Google RISE Award 2014**.

Languages

French native **English** fluent **Spanish** intermediate **Japanese** beginner **Mandarin** beginner