

# Alexis PISTER

## Researcher in Visualization

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Born the 10th of November, 1996



My research interests lie in information visualization, visual analytics, and network visualization. Specifically, I like to design and develop interactive systems with new visualization and interaction techniques for the exploration and analysis of complex data. I mainly worked on network data visualization and its application to sociology and history, and am now studying how to graphically show specific network types such as temporal hypergraphs, that can have many applications.

## EDUCATION

- 2019-2022 Ph.D. in **Visual Analytics** applied to **Historical Temporal Social Networks**, Inria Saclay, Université Paris-Saclay & Telecom Paris
- 2018-2019 Master 2 of **Artificial Intelligence**, Lyon 1 University
- 2016-2019 Engineer Degree in **Bioinformatics and Modeling**, INSA Lyon
- 2014-2016 Bachelor in **Biology** (2 years), Sorbonne University, Paris

## WORK EXPERIENCES

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|---------------|--|
| March 2023    | <b>Data Visualization Freelance, INDEPENDANT, Paris</b>  |
| May 2023      | <ul style="list-style-type: none"><li>› Design and development of <b>network and geospatial visualizations</b> presented in a website, in collaboration with historians.</li><li>› Data modeling, processing, and encoding</li></ul>   |
|               | <a href="#">Javascript</a> <a href="#">D3</a>  |
| August 2019   | <b>R&amp;D internship in Machine Learning applied to Natural Language Processing (NLP), MONDECA, Paris</b>   |
| February 2019 | <ul style="list-style-type: none"><li>› Comparative study and optimization of machine and deep learning algorithms for <b>named entity recognition</b> tasks on large corpora</li><li>› <b>Alert detection</b> on text corpus with word embedding and machine learning algorithms</li><li>› Use of <b>graph embedding</b> methods for triplets classification in a knowledge graph</li></ul> |
|               | <a href="#">Python</a> <a href="#">Scikit-learn</a> <a href="#">Keras</a> <a href="#">Java</a>   |
| August 2018   | <b>Research internship in Image processing and radiomics, IMIV/INSERM/CEA, Orsay</b>   |
| May 2018      | <ul style="list-style-type: none"><li>› Development of an <b>MRI standardization pipeline</b> which is now <b>used for research purposes</b></li><li>› Computing and analysis of <b>radiomic features</b> of MRI images</li></ul>  |
|               | <a href="#">Python</a> <a href="#">R</a> <a href="#">Bash</a>  |

## COMPUTER SKILLS

|                   |   |
|-------------------|---|
| Programming       | Javascript, Typescript, Python, R, Dart, Java, C++, Latex, Bash               |
| Libraries         | D3, Vega, Observable Plot, Numpy, Pandas, Scikit-learn, Pytorch, Spacy, Flask |
| Web Development   | HTML, CSS, Svelte, Vue  |
| Databases         | SQL, Neo4j  |
| Operating systems | Linux, Windows  |
| Softwares         | Git, Inkscape, LibreOffice  |

## AWARDS

**VAST Mini-Challenge 1 Award** (2020) : **Outstanding Comprehensive Solution**. GraphletMatchMaker : Visual Analytics Approaches to Graph Matching in Cybersecurity Communities. Natkamon Tovanich, Alexis Pister, Gaëlle Richer, Paola Valdivia, Jean-Daniel Fekete, Christophe Prieur, Petra Isenberg

## PUBLICATIONS

### *Full Papers*

- [J1] **Alexis Pister**, Christophe Prieur, and Jean-Daniel Fekete. ComBiNet : Visual Query and Comparison of Bipartite Multivariate Dynamic Social Networks. *Computer Graphics Forum*, page cgf.14731, January 2023.

- [J2] Gaelle Richer, **Alexis Pister**, Moataz Abdelaal, Jean-Daniel Fekete, Michael Sedlmair, and Daniel Weiskopf. Scalability in Visualization. *IEEE Transactions on Visualization and Computer Graphics*, pages 1–15, 2023.
- [J3] Sara Di Bartolomeo, **Alexis Pister**, Paolo Buono, Catherine Plaisant, Cody Dunne, and Jean-Daniel Fekete. Six Methods for Transforming Layered Hypergraphs to Apply Layered Graph Layout Algorithms. *Computer Graphics Forum*, 41(3):1467, June 2022.
- [J4] Natkamon Tovanich, **Alexis Pister**, Gaelle Richer, Paola Valdivia, Christophe Prieur, Jean-Daniel Fekete, and Petra Isenberg. VAST 2020 Contest Challenge : GraphMatchMaker : Visual Analytics for Graph Comparison and Matching. *IEEE Computer Graphics and Applications*, pages 1–1, 2021.
- [J5] **Alexis Pister**, Paolo Buono, Jean-Daniel Fekete, Catherine Plaisant, and Paola Valdivia. Integrating Prior Knowledge in Mixed-Initiative Social Network Clustering. *IEEE Transactions on Visualization and Computer Graphics*, 27(2):1775–1785, February 2021.

## Workshop Papers

- [W1] **Alexis Pister**, Nicole Dufournaud, Pascal Cristofoli, Christophe Prieur, and Jean-Daniel Fekete. From Historical Documents To Social Network Visualization : Potential Pitfalls and Network Modeling. In *7th Workshop on Visualization for the Digital Humanities (ViS4DH)*, 2022.
- [W2] **Alexis Pister** and Ghislain Auguste Atemezing. Towards Automatic Domain Classification of LOV Vocabularies. In *PROFILES/SEMEX@ISWC*, 2019.

## Posters

- [P1] **Alexis Pister**, Christophe Prieur, and Jean-Daniel Fekete. Visual Queries on Bipartite Multivariate Dynamic Social Networks. The Eurographics Association, 2022.
- [P2] **Alexis Pister** and Ghislain Auguste Atemezing. Knowledge Graph Embedding for Triples Fact Validation. In *ISWC Satellites*, 2019.

## TEACHING

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2020-2021   **Algorithms and Databases (SQL)**, Engineer Students, Polytech Paris-Saclay, 64h  
 2019-2020   **Algorithms and Databases (SQL)**, Engineer Students, Polytech Paris-Saclay, 64h

## COMMUNITY SERVICE

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Reviewing    VIS (2022, 2023), Visual Informatics (2022), GrapHNR (2023)  
 Volunteering    VIS 2020, Eurovis 2022

## SIDE PROJECTS

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### **30DAYCHARTCHALLENGE**

2023

 [github.com/AlexisPister/30DayChartChallenge-2023](https://github.com/AlexisPister/30DayChartChallenge-2023)  
 One chart a day for 30 days, hosted online

D3 Observable Plot ggplot

### **TROLL-D**

2019

 [github.com/AlexisPister/Troll-d](https://github.com/AlexisPister/Troll-d)  
 Machine learning study for the detection of troll messages. The best model is hosted in the cloud

Scikit-learn Flask

## LANGUAGES

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|         |   |
|---------|---|
| French  |  |
| English |  |
| Spanish |  |
| Greek   |  |

## HOBBIES

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Music : Bass guitar, piano, and electronic music  
 Sports : Running  
 Reading : Novels, newspapers  
 Other : Rock & Roll dancing

## “ REFERENCES

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### Jean-Daniel Fekete

*Research Director, UNIVERSITÉ PARIS-SACLAY, CNRS*

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### Christophe Prieur

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