

Hugo Cisneros

PhD student interested in emergence and self-organization in complex evolving systems and their applications to artificial intelligence.

PERSONAL DATA

Website: <https://hugocisneros.com> | GitHub: <https://github.com/hugcis/>
LinkedIn: <https://www.linkedin.com/in/hugo-cisneros-04347212b/>

WORK & RESEARCH EXPERIENCE

- | | |
|--|---|
| Apr - Nov 2019 | CIIRC (Czech Institute of Informatics, Robotics and Cybernetics) <i>Research Intern</i> , Prague
Under the supervision of Tomas Mikolov (Facebook AI). <ul style="list-style-type: none">• Studied emergence, complexity and spontaneous organization in complex systems and their applications to Artificial intelligence.• Built a neural network-based complexity metric for measuring emergence in cellular automata and other dynamical systems (implemented in C). [GitHub] |
| Mar - Sep 2018 | INRIA and CNRS (LIMSI) <i>Research Intern</i> , Paris
Under the supervision of Xavier Tannier and Ioana Manolescu. <ul style="list-style-type: none">• Built a pipeline generator for extracting and integrating multiple data sources with NLP and data processing algorithms for data journalism. [GitHub]• Worked with journalists from <i>Le Monde (Les Décodeurs)</i> on automating their data processing pipelines and using NLP for their investigations.• Reviewed literature on machine learning in graphs, automatic knowledge base construction and natural language processing for fact checking. |
| Jun - Sep 2017
(Part-time)
Oct 2017 - Mar 2018 | Aiden.ai (start-up) <i>Software engineering and Machine Learning Intern</i> , London
Worked on building an AI powered virtual colleague for Marketing analysts based on Natural Language Processing. Implemented machine learning pipelines with Python for marketing data forecasting, classification and user clustering. Participated in implementing the chat interface and the Natural Language recognition system with Javascript . |
| Sep 2016 - Feb 2017 | ENS Ulm, Kastler-Brossel Laboratory <i>Research assistant</i> , Paris
<i>Light control and propagation in amplified multimode fibers</i>
Implemented and optimized finite elements simulations with Python and Matlab . Performed high performance computing on large distributed clusters. Worked with a PhD candidate on building a tool for optimizing the propagation of a light beam in optical fibers. |

EDUCATION

- | | |
|----------------------|--|
| Current
Nov 2019 | PhD Student INRIA, CIIRC CTU (Czech Technical University in Prague), Paris & Prague
<i>Unsupervised learning with Complex Systems and Evolution</i>
Under the supervision of Tomas Mikolov and Josef Sivic. Topics: complex dynamical systems, self-organization, artificial evolution, artificial intelligence. |
| Sep 2019
Sep 2018 | MVA Master in Machine Learning and Applied Mathematics, ENS Paris Saclay , Paris
Relevant Coursework: Convex Optimization, Probabilistic Graphical Models, Computer Vision, Reinforcement Learning, Deep Learning, Speech and Natural language processing, Kernel Methods, Biostatistics, Theoretical Foundations of Deep Learning — (16.2 / 20) |
| Sep 2018
Sep 2015 | Master of Science in Engineering, Mines ParisTech , Paris
Specialization: Computer Science — (3.7 GPA)
Relevant Coursework: Machine Learning, Probabilities, Statistics, Programming |
| Aug 2015
Sep 2013 | Preparatory class for <i>Grandes Ecoles</i> Lycée Stanislas (Paris) MPSI and MP*
Bachelor's Degree in Mathematics and Physics, national competitive exam for entering engineering school. |
| Aug 2013 | Scientific Baccalauréat (High school diploma in Maths, Physics and Life Sciences) - High distinction |

PUBLICATIONS

Cisneros, H., Sivic, J. & Mikolov, T. **Visualizing computation in large-scale cellular automata**. Artificial Life Conference Proceedings 32, 239–247 (2020).

Cisneros, H., Sivic, J. & Mikolov, T. **Evolving Structures in Complex Systems**. in 2019 IEEE Symposium Series on Computational Intelligence (SSCI) 230–237 (IEEE, 2019).

PROJECTS

- Jun-Aug 2018 Participated in the n2c2 shared task of Harvard Medical School *Cohort Selection for Clinical Trials* in a joint team from AP-HP and LIMSI. Implemented **weakly-supervised and transfer learning methods for Medical NLP** (Keras). Finished 2nd among 30 teams. [\[Preprint\]](#)
- Jan 2018 Built a NLP based tool for discovering and matching similar arXiv papers based on similarity measures including **word embeddings-based similarities** of their abstract and **co-authorship graph distance**. [\[GitHub\]](#)
- Feb 2017 Implemented a multi-currency blockchain in Python with a team of 9 people (Cryptography, network programming, team software development)

COMPUTER SKILLS

- Advanced: Python (Tensorflow, Pytorch, Django), C, Matlab, Java, Javascript (Node.js, Typescript and Web),
 \LaTeX
- Basic: Scala, Ruby, C++

LANGUAGES

ENGLISH:	Fluent	SPANISH:	Intermediate
FRENCH:	Mothertongue	JAPANESE:	School level

INTERESTS AND ACTIVITIES

- Mathematics, Statistics and Probabilities
- Technology, Open-Source, Programming
- Running, Hiking, Fencing, Piano, Guitar