

GIATSIDIS CHRISTOS

CURRICULUM VITAE

PERSONAL INFORMATION

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Current Status

Research Engineer at École Polytechnique for LIX with responsibilities regarding:

- Research on Graph Mining
- Applied machine learning
- Big Data management, Big Data and NoSQL technologies
- Teaching assistance on the topics of Machine Learning, Big Data, Data Science, SQL and NoSQL Data Bases

Research Interests

- Community detection and evaluation
- Influence in social networks
- Methods and frameworks for mining Big Data
- Methods for embedding graph structure properties on high dimensional spaces

Applied Research

2016 -Today

- Incorporating D-core metrics for the Aminer¹ platform – visiting researcher at Tsinghua University. The D-core metric is based on published work on the evaluation of an individual's contribution to the general community. Aminer is an academic platform for the evaluation of authors based on popular metrics (e.g. H-Index).
- Revising component failure for aircrafts with a new dataset. With a new data source of 278 aircrafts, over 13 years of log recordings and novel dimensions, an updated data analysis was conducted to re-evaluate the predictive potential of a richer and denser set of data.
- Data analysis over a 2 year period history of call occurrence data with interest in predicting future incoming calls. The nature of the prediction involves multiple topics and a nationwide span of call centers of AXA.

¹ <https://aminer.org/>

- Consulting in the development of a recommendation model on Spark based on Factorization Machines. Lumesse

2014-2016

- Automatic summarization module for video/audio conferences. In-development module for a P2P tele-conference system that will detect topics in real time conversations and provide recommendations on searches related to the topics.
- Design methods to manage terabyte-sized medical historical data intended for intense analysis in multiple prediction tasks. The target goal is to have an efficient schema for storage in order to minimize the cost of feature engineering in a large scale. - CNAM
- Prediction models for email services. The task at hand was to predict user reaction on sent emails with in-depth data cleaning and feature engineering from the raw source data and various external sources.

2012-2014

- Prediction model for component failure for a big aeronautics company. Data used span a ~1400 feature space for a 3 year history for 20 aircrafts. Intensive data preprocessing and feature selection and creation was employed.
- Obsessive behavior model learning and prediction in online gambling environment for a large operator in the French gambling industry. Predictive models learned from over 2 M user x 70 features x 2 year long history. Intensive data preprocessing and feature selection and creation approaches were employed.

Education

- 2004-2008 B.Sc. - Athens University of Economics and Business (Information Science Department). Grade: 8.0 (top-4% of the class) - 4 years degree 240 ECTS.
- 2013 Ph.D. degree from École Polytechnique.

Distinctions

- “Prix de thèse de l’École Polytechnique 2014” for my thesis entitled: “Graph mining and community evaluation with degeneracy”.
- Prizes of Achievement for being top of the class for the second and third year of studies in the department of Informatics, Athens Univ. of Economics & Business.

Teaching Experience

Master courses

- Big Data course at Pantheon ISF Master 2: *Winter 2015-2017. (15 h)*

Professional Master Training Programs

- Data Science Starter Programme (DSSP) at École Polytechnique. *2014-2017. (30 ~35 per year)*
- Data Science Starter Programme (DSSP) at Orange. *Spring 2015. (20 h)*

Teaching Assistant at Graduate and Master Level classes

- Machine Learning at (M1) at École Polytechnique. *2016-2017 (20 h)*
- SQL/NoSQL/Big Data Databases at École Polytechnique. *2011-2015. (~20 h per year)*
- Big Data Analytics at École Polytechnique. *2015-2016. (6h)*
- Machine Learning for Bigdata (M2- Comasic). *2013-2015. (6 h per year)*
- Advanced Machine Learning at TELECOM ParisTech. *2013. (6 h)*

Other

- Winter school for Data Science by Tsinghua University, Renmin University and École Polytechnique. *Winter 2017. (16 h)*
- Data Mining at SPEIT, SJTU-ParisTech Elite Institute of Technology. Graduate course. *Spring 2017 (6 h)*
- Introduction to Big Data at the American University of Paris. *Spring 2017. (25h)*

Systems

- Configuration and administration of a big data cluster infrastructure that is utilized for courses at École Polytechnique. *2014-2017*
- Development of private leaderboard for Data Challenges regarding data provided to polytechnique by AXA available at:
http://moodle.lix.polytechnique.fr/axa_challenges/ . *2015-2017*
- First “proof of concept” deployment of the Moodle platform at École Polytechnique. Still functional at : <http://moodle.lix.polytechnique.fr/moodle/>

Papers/Publications

- Maria-Evgenia Rossi, Bowen Shi, Nikolaos Tziortziotis, Fragkiskos Malliaros, Christos Giatsidis, Michalis Vazirgiannis: MATI: A Scalable Algorithm for Influence Maximization in Social Networks. Complex Networks 2017.
- Christos Giatsidis, Fragkiskos D. Malliaros, Dimitrios M. Thilikos and Michalis Vazirgiannis: CoreCluster: A Degeneracy Based Graph Clustering Framework, 28th Conference on Artificial Intelligence (AAAI) 2014.
- Christos Giatsidis, Michalis Vazirgiannis, Dimitrios Thilikos, Bogdan Cautis, Silviu Maniu: *Quantifying trust dynamics in signed graphs, the S-Cores approach*, SIAM SDM' 2014.
- Christos Giatsidis, Klaus Berberich, Dimitrios M. Thilikos, Michalis Vazirgiannis: *Visual exploration of collaboration networks based on graph degeneracy*. Demo Paper KDD 2012: 1512-1515
- Christos Giatsidis, Dimitrios M. Thilikos, Michalis Vazirgiannis: *D-cores: Measuring Collaboration of Directed Graphs Based on Degeneracy*. EEE - Data Mining (ICDM)2011: 201-210
- Christos Giatsidis, Dimitrios M. Thilikos, Michalis Vazirgiannis: *Evaluating Cooperation in Communities with the k-Core Structure*. ACM Advances in Social Networks (ASONAM) 2011: 87-93.

Journals

- Christos Giatsidis, Fragkiskos D. Malliaros, Nikolaos Tziortziotis, Charanpal Dhanjal, Emmanouil Kiagias, Dimitrios M. Thilikos, Michalis Vazirgiannis: A k-core Decomposition Framework for Graph Clustering. Arxiv (JMLR submission 2018)
- Christos Giatsidis, Dimitrios Thilikos, Michalis Vazirgiannis: D-cores: measuring collaboration of directed graphs based on degeneracy. in Knowledge and Information Systems, September 2012, 10.1007/s10115-012-0539-0

Tutorials

- Tutorial in the ACM International Conference on Web Search and Data Mining - WSDM 2013 - Rome - Italy, "Advanced graph mining for community evaluation in social networks and the Web"
- Graph Mining Tools for Community Detection and Evaluation in Social Networks and the Web. International World Wide Web Conference (WWW), Rio de Janeiro, Brazil, May 2013. Christos Giatsidis, Fragkiskos D. Malliaros, and Michalis Vazirgiannis.
- 8th Hellenic Conference on Artificial Intelligence, SETN 2014. Ioannina, Greece. "Community Detection and Evaluation in Real Graphs"

Prototypes

- Graph degeneracy for co-authorship and citation graphs: <http://www.graphdegeneracy.org>

Previous Work/Employment / Experience

- Research work "*Web Archiving & Predictive Modeling*": Information extraction on the chronological evolution of web pages and the web graph of Wikipedia in order to predict that evolution over time. Among other metadata the information includes the graph of the web and terms with the most significance for each web page. That was the subject of my graduate thesis under the supervision of Prof. M. Vazirgiannis.
- FP6/IST 2006 SQO-OSS project: Development of a plug-in for the "Software Quality Observatory for Open Source Software " – under the research lab DB-NET, AUEB
- Participation in the development and management of a web based commercial software and database for a car rental portal of international scope –working for ATTICOM

Technical Skills

- Bigdata: Hands-on experience and expertise on
 - Big Data technologies :Hadoop, Map-Reduce, Spark , Pig
 - Big Databases and NoSQL databases : MongoDB, HIVE, HBase
- Programming Languages : JAVA, PYTHON,C/C++, C#, PHP, JSP, JavaScript, SQL