

# Lydia Zakyntinou

## Curriculum Vitae

*Khoury College of Computer Sciences, Northeastern University  
Interdisciplinary Science and Engineering Complex #660  
805 Columbus Avenue, Boston, MA 02118  
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*Research interests: Theory of Machine Learning and Data Privacy*

### Education

- Sept. 2017–  
now **PhD in Computer Science**, *Northeastern University*, Khoury College of Computer Sciences.  
Advisors: Huy Lê Nguyễn and Jonathan Ullman  
GPA: 3.96
- March 2015–  
Sept. 2017 **Graduate Program in Logic, Algorithms, and Computation (MPLA)**, *University of Athens*,  
Department of Mathematics, Greece.  
GPA: 9.93/10  
Thesis: “Online Facility Location with Switching Costs”  
Advisor: Dimitris Fotakis
- Sept. 2008–  
March 2015 **Diploma in Electrical and Computer Engineering**, *National Technical University of Athens*,  
School of Electrical and Computer Engineering, Greece.  
GPA: 8.28/10  
Thesis: “The Multiplicative Weights Update Method in Mechanism Design”  
Advisor: Dimitris Fotakis

### Research Experience

- June–August  
2019 & 2020 **Research Intern**, *IBM Research - Almaden*, San Jose, California, USA.  
Mentor: Thomas Steinke

### Publications

#### **Private Identity Testing for High-Dimensional Distributions.**

Clément L. Cannone, Gautam Kamath, Audra McMillan, Jonathan Ullman, Lydia Zakyntinou  
*34th Conference on Neural Information Processing Systems*, 2020. (NeurIPS’20, Spotlight presentation)  
<https://arxiv.org/abs/1905.11947>

#### **Reasoning About Generalization via Conditional Mutual Information.**

Thomas Steinke and Lydia Zakyntinou  
*33rd Conference on Learning Theory*, 2020. (COLT’20)  
<http://proceedings.mlr.press/v125/steinke20a.html>

#### **Efficient Private Algorithms for Learning Large-Margin Halfspaces.**

Huy Lê Nguyễn, Jonathan Ullman, Lydia Zakyntinou  
*31st International Conference on Algorithmic Learning Theory*, San Diego, USA, 2020. (ALT’20)  
<http://proceedings.mlr.press/v117/nguy-en20a.html>

#### **Improved Algorithms for Collaborative PAC Learning.**

Huy Lê Nguyễn and Lydia Zakyntinou  
*32nd Conference on Neural Information Processing Systems*, Montréal, Canada, 2018. (NeurIPS’18)  
<https://papers.nips.cc/paper/7990-improved-algorithms-for-collaborative-pac-learning>

### Preprints

#### **Differentially Private Decomposable Submodular Maximization.**

Anamay Chaturvedi, Huy Lê Nguyễn, Lydia Zakyntinou  
Accepted as a poster at the Workshop on Theory and Practice of Differential Privacy (TPDP), 2020.  
<https://arxiv.org/abs/2005.14717>

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## Teaching Experience

- Fall '18 **Algorithms and Data (CS3000)**, *Instructor: Jonathan Ullman*, NEU, Undergraduate.  
Teaching Assistant
- Spring '15–'17 **Introduction to Computer Science**, *Instructors: Aris Pagourtzis, Stathis Zachos*, NTUA, Undergraduate.  
Grader
- Fall '14–'16 **Computer Programming**, *Instructors: Stathis Zachos, Dimitris Fotakis, Nikolaos Papaspyrou*, NTUA, Undergraduate.  
Lab Instructor
- Fall '14–'16 **Algorithms and Complexity**, *Instructor: Dimitris Fotakis*, NTUA, Undergraduate.  
Teaching Assistant
- Spring '15–'16 **Algorithms and Complexity**, *Instructor: Dimitris Fotakis*, NTUA, Graduate.  
Teaching Assistant
- Spring '16 **Algorithmic Game Theory**, *Instructor: Dimitris Fotakis*, NTUA, Graduate.  
Teaching Assistant
- Spring '15 **Social Networks**, *Instructor: Dimitris Fotakis*, NTUA, Graduate.  
Teaching Assistant

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## Workshop Talks

**Reasoning about Generalization via Conditional Mutual Information**, *First IBM Workshop on Information Theory*, IBM Research, September 2020.

**Private Identity Testing for High-Dimensional Distributions**, *New York Colloquium on Algorithms and Complexity*, CUNY, November 2019.

**Private Identity Testing for High-Dimensional Distributions**, *Workshop on Algorithms in Learning and Economics*, Rhodes, Greece, July 2019.

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## Honors & Awards

- 2020 **Facebook Fellowship**, Merit-based award covering full stipend, tuition, and conference travel for two academic years.
- 2017 **Graduate Fellowship**, *Khoury College of Computer Sciences, Northeastern University*, Merit-based award covering full stipend and tuition for one academic year.
- 2017 **First Honor in the Graduate Program in Logic, Algorithms, and Computation**, *University of Athens*, for highest GPA in the class of 2017.
- 2008 **Eurobank “The Great Moment for Education” Fellowship**, Merit-based award rewarding one top graduate from every high school in Greece based on their score in the nationwide examination.
- 2008 **Ministry of Education’s Commendation Certificate for Academic Performance**, for highest GPA in high school.

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## Service

**Reviewer**, *SODA 2019, ESA 2020, ICML 2020, NeurIPS 2020, AAAI 2020, ALT 2020, Theoretical Computer Science (TCS) Journal*.

**Program Committee Member**, *FAccT 2020, TPDP 2020*.

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## Programming skills

- Advanced  $\text{\LaTeX}$ , C
- Intermediate R, MATLAB, Python

Basic Java, Prolog, Haskell, ML, PHP, HTML, CSS

## Languages

Greek native speaker  
English fluent  
French good command

*TOEFL: 117/120, GRE: 162V / 168Q / 4.0W*  
*Diplôme B2, Institut Français d'Athènes*

## Interests & Misc.

- Organizer for the Theory Seminar and Khoury PhD Women Group at Northeastern University (Spring 2019 - now)
- Head of Academic Activities for the 6th Panhellenic Conference of ECE Students (2013)
- Diploma in Modern Song and Jazz Harmony, Nakas Conservatory (2011)