

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
2022 **Research Intern**, *Apple Research*, Cupertino, California, USA.
Mentor: Audra McMillan
- June–August
2019 & 2020 **Research Intern**, *IBM Research - Almaden*, San Jose, California, USA.
Mentor: Thomas Steinke

Publications

- Covariance-Aware Private Mean Estimation Without Private Covariance Estimation.**
Gavin Brown, Marco Gaboardi, Adam Smith, Jonathan Ullman, Lydia Zakyntinou
35th Conference on Neural Information Processing Systems, 2021. (NeurIPS’21, Spotlight presentation)
<https://arxiv.org/abs/2106.13329>
- PAC-Bayes, MAC-Bayes and Conditional Mutual Information: Fast rate bounds that handle general VC classes.**
Peter Grünwald, Thomas Steinke, Lydia Zakyntinou
34th Annual Conference on Learning Theory, 2021. (COLT’21)
<https://arxiv.org/abs/2106.09683>
- Differentially Private Decomposable Submodular Maximization.**
Anamay Chaturvedi, Huy Lê Nguyễn, Lydia Zakyntinou
35th AAAI Conference on Artificial Intelligence, 2021. (AAAI’21)
<https://arxiv.org/abs/2005.14717>
- Online Facility Location in Evolving Metrics.**
Dimitris Fotakis, Loukas Kavouras, Lydia Zakyntinou
Algorithms 2021, 14(3):73.
<https://doi.org/10.3390/a14030073>
- 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 Annual 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>

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

Workshop Talks

PAC-Bayes, MAC-Bayes and Conditional Mutual Information: Fast rate bounds that handle general VC classes, *New York Colloquium on Algorithms and Complexity*, March 2021.

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.

Honors & Awards

- 2022 **Khoury College PhD Research Award**, Awarded annually to a doctoral student whose research makes a significant impact in the field.
- 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**, 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.

Service

Student representative of Faculty Hiring Committee, *Khoury College of Computer Sciences, Northeastern University*, 2021.

Reviewer, *SODA 2019, ESA 2020, ICML 2020-2022, NeurIPS 2020-2022, AAI 2020, ALT 2020, Theoretical Computer Science (TCS) Journal, IEEE Transactions of Information Theory*.

Program Committee Member, *FAccT 2021-2022, TPDP 2020-2021*.

Organizer, *Boston-area Differential Privacy Seminar (Spring 2021), NEU Theory Seminar (Spring 2019-Fall 2021), Khoury PhD Women Group (Spring 2019-Fall 2021)*.

Technical skills

LaTeX, C, Python

Languages

Greek native speaker
English fluent
French good command

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