Curriculum Vitae

Maria Dimakopoulou

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EDUCATION

STANFORD UNIVERSITY **6/2015 – 12/2018,**
Ph.D. in Management Science & Engineering Department **Stanford, CA**
Advisors: Professor Benjamin Van Roy & Professor Susan Athey
Dissertation: Coordinated Exploration in Concurrent Reinforcement Learning
GPA 4.27/4.30

- Recipient of the 2016 and 2019 Stanford MS&E "Outstanding Academic Achievement" awards.
- Recipient of the "Arvanitidis in Memory of William K. Linvill" Stanford Graduate Fellowship.

STANFORD UNIVERSITY **6/2015 – 6/2016,**
M.Sc. in Management Science & Engineering Department **Stanford, CA**
Operations Research
GPA 4.23/4.30

- Graduated 1st of my class out of 146 students.

NATIONAL TECHNICAL UNIVERSITY OF ATHENS (NTUA) **2009 – 2014,**
M.Sc. and B.Sc. in Electrical Engineering & Computer Science Department **Athens, Greece**
Computer Science & Computer Systems Major, Management & Finance Minor
GPA 10.00/10.00

- Graduated 1st of my class and achieved the highest GPA in the 200 year history of NTUA.
- Ranked nationwide 1st in the NTUA EE & CS entry exams of 2009 with score 19920/20000.

PUBLICATIONS & PREPRINTS

2020 **ADMM SLIM: Sparse Recommendations for Many Users**
Steck, Dimakopoulou, Riabov, Jebara – *WSDM*

2019 **Doubly Robust Off-Policy Evaluation with Shrinkage**
Su, Dimakopoulou, Krishnamurthy, Dudik – *arXiv:1907.09623*

Marginal Posterior Sampling for Slate Bandits
Dimakopoulou, Vlassis, Jebara – *IJCAI*

On the Design of Estimators for Bandit Off-Policy Evaluation
Vlassis, Bibaut, Dimakopoulou, Jebara – *ICML*

Balanced Linear Contextual Bandits
Dimakopoulou, Zhou, Athey, Imbens – *AAAI*

2018 **Scalable Coordinated Exploration in Concurrent Reinforcement Learning**
Dimakopoulou, Osband, Van Roy – *NeurIPS*

Coordinated Exploration in Concurrent Reinforcement Learning
Dimakopoulou, Van Roy – *ICML*

2017 **Estimation Considerations in Contextual Bandits**
Dimakopoulou, Athey, Imbens – *arXiv:1711.07077, NeurIPS ML & Causal Inference workshop*

Market-Based Dynamic Service Mode Switching in Virtualized Wireless Networks
Dimakopoulou, Bambos, Valdez-Vivas, Apostolopoulos – *IEEE PIMRC*

2016 **Reliable and Efficient Performance Monitoring in Linux**
Dimakopoulou, Eranian, Koziris, Bambos – *ACM/IEEE Supercomputing*

PROFESSIONAL EXPERIENCE

NETFLIX RESEARCH – Senior Research Scientist **12/2018 – present**

- **Leading bandit, causal inference and reinforcement learning research for personalization:** Among the research projects deployed or in progress are causal bandit algorithms for message selection and catalog ranking, slate bandits for message design, joint title asset optimization and page construction, reinforcement learning for multi-day messaging policies, automating cell selection for online A/B tests and designing better off-policy estimators.

MICROSOFT RESEARCH – NYC Machine Learning Lab **6 – 9/2018, NYC**

- **Reinforcement Learning Decomposition:** Developed an approach to break down complex reinforcement learning tasks into many simpler ones that can be learned faster by multiple agents (in collaboration with Principle Researchers Miroslav Dudik and Robert Schapire).
- **Off-Policy Evaluation for High-Dimensional Contextual Bandits:** Developed a range of new off-policy estimators that exhibit better bias-variance properties than existing ones in high-dimensional contextual bandit settings (in collaboration with Principle Researcher Miroslav Dudik).

SALESFORCE DMP (KRUX) – Data Science Team **6 – 9/2016, Bay Area**

- **Multi-Touch Attribution Product:** End-to-end implementation of Krux's Attribution product, from experimental design, to game theory and causal inference based analysis on TBs of data to budget constraint optimization. Launched the product for a group of high-profile clients of Krux.

GOOGLE RESEARCH – Ad Exchange Optimization Team **11/2014 – 4/2015, NYC**

- **Auction Reserve Price Optimization:** Optimized the Ad Exchange Dynamic Pricing Pipeline and prepared it for production launch. Discovered a Dynamic Pricing feature, yielding annual revenue lift for Real-Time Bidding of hundreds of millions of dollars and launched it in production.
- **BIN-TAC Auction Mechanism:** Collaborated with USC Professor Hamid Nazerzadeh on the analysis and implementation of BIN-TAC auction with revenue lift potential of 5% in Ad Exchange.

GOOGLE RESEARCH – Operations Research & Optimization Team **7 – 11/2013, Paris**

- **Linux Kernel Performance Monitoring Subsystem Scheduling:** Led collaboration of the Operations Research team with the Linux kernel team to improve scheduling of hardware events on the processors' counters in the kernel. Designed an optimal algorithm, increasing by 18% the measurement accuracy and the hardware utilization, which was launched in the Google production kernel.
- **Intel PMU Erratum:** Led collaboration of the Operations Research team with the Linux kernel team and Intel to solve the 3-year unsolved measurement corruption erratum of Intel Performance Monitoring Unit. Designed a dynamic scheduling protocol solving the erratum, which was launched in the Google production kernel and was contributed to Linux kernel 4.1 benefitting 1000s of Intel machines.
- **Earliness-Tardiness Scheduling:** Designed Linear & Mixed Integer Programming models which address Convex and Non-Convex Cost Optimization Scheduling problems in Google Technical Infrastructure and Google Geo projects.

GOOGLE RESEARCH – Operations Research & Optimization Team **8 – 11/2012, Paris**

- **Multi-Trip Vehicle Routing:** Designed heuristics and meta-heuristics for any generic routing model which produce 43% higher quality first solutions and find the optimal solutions 45% faster. The heuristics were launched in production and are run daily benefiting Google Geo related projects.
- **Constraint Programming:** Designed open-source models for the NP-hard Radio Link Frequency Assignment problem teaching advanced usage of Constraint Programming methods in and out of Google.

AWARDS & FELLOWSHIPS

2019
- **Forbes 30 Under 30 Greece.**
- **Stanford Outstanding Academic Achievement at the Doctoral Level Award** presented annually to the top performing PhD student of Stanford, MS&E.

2015 – 2018
- **"Arvanitidis" Stanford Graduate Fellowship in Memory of William K. Linvill** awarded to 1% of Stanford PhD students for excellence in research and study.
- **Onassis Foundation Graduate Fellowship** awarded to the best performing Ph.D. students of Greek nationality worldwide.

2016
- **Stanford Outstanding Academic Achievement at the Masters Level Award** presented annually to the top performing MSc student of Stanford, MS&E.

2015
- **NTUA Dean's Honorary Award** for the best performing student in Mathematics coursework across all NTUA departments.
- **Limmat Stiftung Foundation Academic Excellence Award**

2014
- **Intel Honorary Award** "in recognition for the creativity and drive in modifying the Linux Performance Monitoring Subsystem to improve the PMU accuracy in 1000s of Intel machines".
- **Google Anita Borg Memorial Fellowship** for excellence in computer science and technology, outstanding academic achievement, leadership and community involvement.

2013
- **Google Management Excellence Award** for multiple optimization accomplishments and outstanding achievements in the Operations Research & Optimization team.
- **Google Volunteering Award** for promoting careers in engineering to women at high-school level and assisting Google's efforts to encourage diversity.

2011 – 2015
- **NTUA Dean's Honorary Award** presented annually for the best academic performance across all NTUA departments.
- **State Scholarship Foundation of Greece Honorary Award** presented annually for the best academic performance in NTUA Electrical Engineering and Computer Science Department.

2011
- **NTUA Dean's Honorary Award** for ranking nationwide 1st in the NTUA Electrical Engineering and Computer Science Department entry exams.
- **Triantafyllidis Foundation, Greek Ministry of Finance & Greek Ministry of Education Undergraduate Fellowship**

2010
- **Ministry of Education Honorary Award** for ranking nationwide 1st in the NTUA Electrical Engineering and Computer Science Department entry exams.

2009
- **26th National Mathematics Olympiad Silver Medal**.
- **Hellenic Mathematical Society Silver Medal** at the 'Euclid' Contest.

2008
- **6th European Union Science Olympiad Bronze Medal**

2005 – 2008
- **Hellenic Mathematical Society Silver or Bronze Medal** at the 'Euclid' Contest.

2003 – 2009
- **Greek Educational Society High-School Excellence Award** for ranking 1st in class.

LANGUAGES & INTERESTS

- English, Greek, French
- Swimming, Tennis, Travelling, Literature