Christos Mitropoulos

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Summary

Experienced Data Scientist with strong Data Engineering skills that has mainly worked in the invalid traffic and fraud detection space. Interested in full stack roles and solving problems end-to-end, from research to deployment and performance monitoring.

EXPERIENCE

Oracle Advertising - MOAT

New York, NY

Senior Data Scientist

Jun. 2019 - present

- o Performing exploratory data analysis on ad measurement data for desktop, mobile and connected TV devices
- Designing, implementing and automating data pipelines
- Designing, implementing and automating machine learning pipelines
- Tools: Python, scikit-learn, pandas, spark, pymc, SQL, linux, Airflow, Kubernetes, Argo Workflows, Grafana,
 Prometheus

Perspecta Labs (former Vencore Labs, Applied Communication Sciences)

Baskin Ridge, NJ Jun. 2018 – Aug. 2018

 $Cyber\ Security\ Research\ Intern$

- Developing botnets of the Fast Flux family, on top of the CyberVAN tesbed.
- Evaluating the performance of the botnets using intrusion detection systems and machine learning based techniques.
- o Tools: C++, Winsock, GoLang, Python, Linux and Windows operating systems.

Rutgers, The State University of New Jersey

New Brunswick, NJ

Research Assistant - HCI & Security Engineering Lab - Advisor: Prof. Janne Lindqvist

Sep. 2016 - May 2019

Rutgers, The State University of New Jersey

New Brunswick, NJ

Lead Teaching Assistant - Computer Architecture Lab

Sep. 2016 - May 2019

- Teaching Assembly MIPS to approximately 80 students.
- Preparing and grading lab assignments.

Rutgers, The State University of New Jersey

New Brunswick, NJ

Jun. 2014 - Sep. 2014

Research Internship

o Research Areas: Pattern Recognition, Machine Learning, Security and Privacy, Human Computer Interaction

Digi4sites.com

Athens, Greece

Software Engineer

Jun. 2012- Sep. 2014

• Responsibilities: Developing custom websites using HTML, CSS, jQuery, MySQL; Server administration using Amazon Web Services (AWS) tools.

EDUCATION

Rutgers, The State University of New Jersey, HCI & Security Engineering Lab

New Brunswick, NJ

 $Masters\ in\ Electrical\ and\ Computer\ Engineering\ ;\ Advisor:\ Prof\ Janne\ Lindqvist;\ GPA:\ 3.9$

Sep. 2016 - May 2019

- Courses: Massive Data Mining and Learning, Parallel and Distributed Computing, Software Engineering, Regression Analysis, Security Engineering, Operating Systems
- o Online courses: Neural Networks and Deep Learning

National Technical University of Athens (NTUA)

Athens, Greece

Masters of Engineering in Electrical and Computer Engineering; GPA 3.6

Sep. 2010 - Sep. 2015

- Thesis: Created an android based Gesture Authentication System using Machine Learning Models, Hidden Markov Models; Grade 10/10
- Courses: Artificial Intelligence, Databases and Information Systems Engineering, Algorithms and Data Structures,
 Programming Languages, Computer Communication Mobile Networks

Programming Skills

- Languages: Java, Python, C/C++, MATLAB, Javascript, SQL
- Frameworks/Libraries: Scikit Learn, Pandas, Hadoop, SQL, AirFlow, Kubernetes, Argo, pthreads, ISPC, Django,
- OS: Linux, Windows

Research Projects

Machine Learning and Social Protocols for Enhancing Spectrum Access

Advisor: Prof. Janne Lindqvist

Sep. 2016 - Mar 2019

- Designed experiments to measure participants' behavior under lossy networks.
- Designed experiments to get objective video quality assessment of videos streamed under lossy networks.

Video Guessing Attacks

Advisor: Prof. Janne Lindqvist

Mar. 2018 - Mar 2019

• Perform PIN guessing attacks based on video with no view of the victim's screen.

Human Behavior Prediction

Advisor: Prof. Janne Lindqvist

Sep. 2016 - Mar 2019

- Create predictive models of human behavior based on collected data.
- Built a web-based tool to facilitate data collection.

Analyze System Administrators' Vulnerability-handling Behavior

Advisor: Prof. Janne Lindqvist

Oct. 2017 - Dec. 2017

- Mined data from IPv4 network scanners and disclosed vulnerabilities datasets.
- Applied exploratory data analysis methods and created models with predictive power.

Novel Video Quality metric for Long Videos

Advisor: Prof. Janne Lindqvist

Sep. 2017 - Dec. 2017

• Developed a novel video quality metric for longer videos, taking into account video freeze events and frame distortions.

Social Protocols for Enhancing Network Connectivity Sharing

Advisor: Prof. Janne Lindqvist

Sep. 2017 - Dec. 2017

- Designed experiments to measure participants network connectivity sharing choice based on nudges.
- Built a web-based tool to facilitate data collection.

Course Projects

- Massive Data Minining and Learning: The NextHit: Predicting movie success and building Content and Collaborative Filtering recommendation system.
- Parallel Computing Project: Wrote CUDA C/C++ code for multi-core CPU architectures and heterogeneous CPU-GPU system applications
- User Authentication System: Developed an User authentication system running on Android smart-phones. User-generated gestures are used for identifying the users. Hidden Markov Models were used for modeling the gestures
- Restaurant Automation System: Developed an automation system using the Django Python Framework and the MVC design architecture
- Hotel Management Information System: Developed a Hotel Management System using Dynamic Web Technologies; PHP, html, css, javascript, MySQL

Honors and Awards

- 2018: Winner of the Rutgers State University TA/GA Development Fund
- 2017: Winner of the Gerondelis Foundation Grant

Academic Service

- SOUPS 2018: External Reviewer
- WWW 2018: External Reviewer
- SOUPS 2017: External Reviewer
- IMWUT 2017: External Reviewer

Papers

• Xianyi Gao, Yulong Yang, Can Liu, **Christos Mitropoulos**, Oulasvirta Antti, Janne Lindqvist. "Forgetting of Passwords: Ecological Theory and Data", USENIX Security '18