

Pavlos Charonyktakis



Personal Details

Date of Birth: October 10, 1988
Nationality: Hellenic
Military Obligations: Fulfilled (2012 - 2013)
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Research Interests

Machine Learning, Wireless Networks, Mobile Computing, Performance Analysis, Software Engineering, Signal Processing, Statistical Analysis, Computer Vision, Systems

Current Position

Gnosis Data Analysis
Scientific Programmer

since March 2016

- Development of the Just Add Data tool, a complete statistical analysis pipeline for performing feature selection, identifying and interpreting predictive signatures. Just Add Data is designed to offer the following characteristics:
 - Automation, requiring minimal input from the user and no data-analysis expertise
 - Quality of results, employing state-of-the-art methods and analysis protocols that shield against methodological errors and are competitive against customized code by analysis experts
 - Efficiency of computations, algorithmically optimizing the methods used
 - Understanding of output, helping the user with the interpretation and visualization of results
- Development of the BioSignature Discoverer plug-in for identifying molecular signatures for the CLCbio bioinformatics platform
- Implementation of a highly optimized machine learning and statistics library in Java

Education

Master of Science Degree

Computer Science Department, University of Crete, Greece

Supervisor: Associate Prof. Maria Papadopouli

Thesis: On User-Centric Modular QoE Prediction for VoIP Based on Machine-Learning Algorithms

– Supported by the General Secretariat for Research and Technology in Greece with a Research Excellence, Investigator-driven grant, 2012 and by a Google Faculty Research Award, 2013 (PI Maria Papadopouli).

November 2015

Bachelor of Science Degree

Computer Science Department, University of Crete, Greece

Supervisor: Associate Prof. Maria Papadopouli

Thesis: Design and evaluation of distance calculation system using infrared and camera

Grade: 7.56/10

July 2011

Graduation from senior high school

Grade: 18.1/20

June 2006

Research Experience

Foundation for Research and Technology – Hellas (FORTH) 2013–2015
Graduate Research Assistant, Mobile Computing Group (Head Maria Papadopouli)

Foundation for Research and Technology – Hellas (FORTH) 2009–2012
Undergraduate Research Assistant, Mobile Computing Group (Head Maria Papadopouli)

Industrial Experience

Nova GO HF tracker: The Nova GO HF tracker monitors the user engagement and satisfaction for the Nova GO mobile video streaming service that Forthnet provides. The Nova GO HF tracker collects measurements about the network performance (active and passive monitoring), video playback quality, user activity on the GUI, and user feedback. Based on the collected data, we build QoE-prediction models and user profiles.

u-map: The u-map is a crowd-sourcing monitoring system that collects real-time information about the performance of the network and services. This information includes network measurements as well as customer feedback and opinion scores about services. The u-map applies statistical analysis and data mining techniques to recommend the best service provider to the users. Providers/operators can also query u-map to obtain a better understanding about the quality of their network and services.

Forthroid: The Forthroid is a location-based system that “augments” physical objects with multimedia information and enables users to receive information about physical objects or request services related to physical objects. It employs computer-vision techniques and Quick Response codes (QR-codes). We have implemented a prototype on Android platforms and evaluated its performance with systems metrics and subjective tests.

Academic Experience

Teaching Assistant at University of Crete

- Graduate course “Mobile Networks and Computing” 2013 - 2015
- Undergraduate course “Wireless Networks and Mobile Computing” 2013 - 2015
- Undergraduate course “Calculus II” 2014
- Undergraduate course “Introduction to Computer Science” 2013
- Undergraduate course “Computer Networks” 2011

Awards

- QoMEX’16 Best Paper Award (Student) 2016
- Graduate Research Scholarship, Institute of Computer Science, Foundation for Research and Technology – Hellas (ICS-FORTH) 2013–2015
- Undergraduate Research Scholarship, Institute of Computer Science, Foundation for Research and Technology – Hellas (ICS-FORTH) 2009–2012
- 3rd highest score nationwide, National Entrance Examinations for Department of Computer Science, University of Crete 2006

Publications

- [1] O. Simantiraki, **P. Charonyktakis**, A. Pampouchidou, M. Tsiknakis, and M. Cooke, “Glottal source features for automatic speech-based depression assessment,” in *INTERSPEECH 2017*, August 20–24, 2017.
- [2] **P. Charonyktakis**, M. Plakia, I. Tsamardinos, and M. Papadopouli, “On user-centric modular qoe prediction for voip based on machine-learning algorithms,” *IEEE Transactions on Mobile Computing*, vol. 15, no. 6, pp. 1443–1456, 2016.
- [3] M. Plakia, M. Katsarakis, **P. Charonyktakis**, M. Papadopouli, and I. Markopoulos, “On user-centric analysis and prediction of qoe for video streaming using

empirical measurements,” in *Quality of Multimedia Experience (QoMEX), 2016 Eighth International Conference on*. IEEE, 2016, pp. 1–6.

- [4] M. Katsarakis, M. Plakia, **P. Charonyktakis**, and M. Papadopouli, “On user-centric QoE prediction for VoIP and video based on machine-learning,” in *NSF/FCC Workshop on Tracking Quality of Experience in the Internet*, Princeton, USA, October 21–22, 2015.
- [5] M. Katsarakis, G. Fortetsanakis, **P. Charonyktakis**, A. Kostopoulos, and M. Papadopouli, “On user-centric tools for QoE-based recommendation and real-time analysis of large-scale markets,” *IEEE Communications Magazine*, vol. 52, no. 9, pp. 37–43, 2014.
- [6] A. Alexandridis, **P. Charonyktakis**, A. Makrogiannakis, A. Papakonstantinou, and M. Papadopouli, “Forthroid on android: A qr-code based information access system for smart phones,” in *Local & Metropolitan Area Networks (LANMAN), 2011 18th IEEE Workshop on*. IEEE, 2011, pp. 1–6.

Abstracts

- [1] K. Lakiotaki, **P. Charonyktakis**, and I. Tsamardinos, “Automated machine learning methods to predict phenotype in microarray and rna-seq gene expression data,” in *Hellenic Bioinformatics 10*, September 6–9, 2017.

Presentations

- [1] **P. Charonyktakis**, “Just add data bio: Intelligent, automated analysis of biomedical data,” September 1–3, 2017, presented in MASSCAUSAL 2 Workshop in Computational Methods for Cytometry and Single-Cell Data.

Programming and Systems Skills

Programming languages: C, C++, Java, Matlab, R, LaTeX, PHP, Javascript, Java Servlets, JSP
Web technology frameworks: Spring
Mobile development tools: Android SDK
Database Systems: PostgreSQL, MySQL, SQLite
Collaborative development tools: Git
Operating Systems: Linux(Ubuntu), Unix, Windows, Android
Other: Oracle VM Virtual Box, Wireshark

Dissemination Activities

Demos and short presentations for Google, Forthnet, Neurocom, Hellenic Telecommunications and Post Commission
Press Releases: Forthnet, Hellenic Telecommunications and Post Commission

Foreign Languages

English – Certificate of Competency in English, *University of Michigan*
Greek – native language