Konstantinos Kallas

Contact	Email: kallas@seas.upenn.edu – Website: angelhof.github.io

Education

University of Pennsylvania *September 2018 – present*
Computer and Information Science, PhD student
Advisor: Rajeev Alur

Eight Summer School on Formal Techniques *May 2018*
Menlo College, Atherton, CA
Organised by SRI International

National Technical University of Athens *October 2012 – February 2018*
Electrical and Computer Engineering, Diploma
Thesis: *"HiPErJiT: A Profile-Driven Just-in-Time Compiler for Erlang"*
Advisor: Prof. Kostis Sagonas

Universita degli Studi dell'Aquila *February 2015 – July 2015*
Computer Science, Erasmus Mobility Program

Working Experience

Software Engineering Intern *May 2019 - August 2019*
Amazon Web Services, New York, US
Internship in the Automated Reasoning Group.
Worked on the verification of critical C code.

Google Summer of Code Student *May 2017 - September 2017*
Worked with BEAM Community to extend the *ejabberd* open source project.
Implemented support for the *"Let's Encrypt" ACME* certificate acquiring protocol.

Big Data Application Developer *June 2016 - September 2016*
Everis, Barcelona, Spain
Internship at the Big Data Center of Excellence.
Developed Big Data Applications using a plethora of tools in the Hadoop ecosystem.

Teaching Experience

Teaching Assistant *Fall 2019*
Institution: University of Pennsylvania
Course: *Software Foundations*, Graduate level
Professor: Benjamin Pierce

Lab Assistant *Fall 2017*
Institution: National Technical University of Athens
Course: *Introduction to Programming*, Undergraduate level
Professors: S. Zachos, N. Papaspyrou, V. Kantere, and P. Potikas

Publications

Dish: Distribution-oblivious Shell Scripting.
Konstantinos Kallas, Nikos Vasilakis, Lazar M. Cvetković, and Konstantinos Mamouras.
In submission.

Flumina: Correct distribution of Stateful Streaming Computations.
Konstantinos Kallas*, Filip Niksic*, Caleb Stanford*, and Rajeev Alur.
In submission.

Differential Testing for Stream Processing Systems.
Konstantinos Kallas*, Filip Niksic*, Caleb Stanford*, and Rajeev Alur.
In submission.

Code-Level Model Checking in the Software Development Workflow.
Nathan Chong, Byron Cook, Konstantinos Kallas, Kareem Khazem, Felipe R. Monteiro, Daniel Schwartz-Narbonne, Serdar Tasiran, Michael Tautschnig, and Mark R. Tuttle.
Accepted for publication at ICSE 2020 SEIP track.

Security Criteria for a Transparent Encryption Layer.
Konstantinos Kallas, Clara Schneidewind, Benjamin C. Pierce, and Steve Zdancewic.
Workshop on Foundations of Computer Security (FCS 2019).

HiPErJiT: A Profile-Driven Just-in-Time Compiler for Erlang.
Konstantinos Kallas and Konstantinos Sagonas.
30th Symposium on Implementation and Application of Functional Languages (IFL 2018).

Honors and Awards	**Programming Competitions** *2015-2018*

Programming Competitions   *2015-2018*
Participation in many programming competitions. Notable examples:
ICFP Programming Contest 2018 (Lightning) *10th out of 91 teams*,
IEEE Xtreme 2017 *Top 5%* and *3rd* in Greece, IEEE Xtreme 2016 *Top 10%*

Heterogenous Computing Student Challenge Certificate   *2017*
HiPEAC CSW, Zagreb, Croatia
Optimizing GPU implementation of the K-means algorithm (NTUA-team)
Supervision: Prof. Georgios Goumas

EESTech Challenge   *2017*
Supervised Machine Learning Hackathon
Joint 1st place among 40 teams.

The Great Moment of Education Scholarship from Eurobank EFG   *2012*
Achieving the highest rank in national qualifications exams in Dionisos high school.

9th European Union Science Olympiad   *2011*
Team-based science competition in Biology, Chemistry, and Physics.
1st place in local round and *3rd place* in national round.

Mathematical Competition, Hellenic Mathematical Society   *2010*
Mathematical competition for high school students.
Distinction in the 1st and 2nd local round.

Computer Experience

Programming Languages:
Erlang, Haskell, Python, Coq, C, Scala, SML, Agda, Javascript, Matlab, Java, SQL
Operating Systems:
Extensive experience on the Linux OS and Linux Kernel Programming.
Hadoop:
Deep understanding of the Hadoop Ecosystem as well as hands on experience.
Typesetting:
Experience using LaTeX.

Languages   **Greek** (Native), **English** (C2), **Italian** (C1), **German** (B2)