

# Dimitrios Stamatios Bouras

## Education

- 09/2023 – **MSc Software Systems Engineering**, *University College London*, London, United Kingdom  
09/2024 Graduated with High First-Class Honours (Grade: 79.6%)  
Ranked **1st in Class of 2024**
- 09/2017 – **MEng, BSc in Electrical and Computer Engineering**, *National Technical University of Athens*,  
02/2023 Athens, Greece  
*Grade: 8.69/10 (First Class Honours)*  
5-year integrated master's degree; 300 ECTS. Selected Flows: Computer Systems, Computer Software, Management and Decision Support Systems.
- 09/2014 – **High School Diploma**, *2nd General High School Kalyvion*, Athens, Greece  
06/2017 *20.0/20.0, "Distinction", Top of 2017 Class*

## Professional Experience

- 09/2024 – **Research Assistant**, *Peking University*, Beijing, China  
Ongoing
  - Research Assistant at the Programming Language Lab of Peking University
  - Affiliated Projects:
    - LLM assisted Crossover for Genetic Improvement of Software
    - Structural Reasoning about Programs in Natural Language
    - AI assisted Verification of Smart Contracts
- 03/2023 – **DevOps Engineer**, *IBM*, Athens, Greece  
09/2023
  - Engineer at the COSMOS project; implementation of a new core banking system for the National Bank of Greece.
  - Developed continuous integration, testing, and deployment pipelines.
  - Created a multipurpose release management web tool.
  - Provided production cloud support and monitoring solutions, ensuring high availability, optimal performance, and swift resolution of incidents
  - Managed cloud infrastructure using Terraform and Ansible
- 11/2022 – **Teaching Assistant**, *National Technical University of Athens, School of Electrical and Computer*  
02/2023 *Engineering*
  - Provided assistance in the Microcomputers Laboratory course.
  - Examined and graded students on semester exercises and final exams.
- 10/2021 – **Research Assistant**, *Microprocessors and Digital Systems Lab, NTUA*  
02/2023
  - Assisted in energy efficiency, binary code lifting and heterogeneous computing research.
  - Deployed and maintained cloud infrastructure for the research performed.
- 07/2021 – **DevOps Integration Specialist Intern**, *IBM*, Athens, Greece  
09/2023
  - Maintained and created CI/CD pipelines
  - Provided cloud automation solutions

## Honors & Awards

- 2024 **Top of 2024 UCL Software Systems Engineering Masters Class**
- 2023 **Proud of Youth Scholarship by Helleniq Energy**, to promising youth, for Postgraduate Studies
- 2023 **Eugenides Foundation Scholarship** due to academic excellence, for Postgraduate Studies
- 2017 **National Chemistry Olympiad**, 7th place, reserve for Global Chemistry Olympiad.
- 2016 **European Youth Parliament of Greece**, 11th place, reserve for the 87th International Session.

## Skills

- Languages Python, C, C++, Java, Groovy, TypeScript, JavaScript, Go, SQL, Assembly (x86, RISC-V), Standard ML, Prolog, Matlab, Verilog, UML, VHDL.
- Tools Jenkins, Openshift, Docker, Kubernetes, Azure DevOps, AWS DevOps, Maven, Terraform, Ansible, IaC, Prometheus, ELK, Android Studio, LLVM, Xilinx Vivado, Machine Learning (PyTorch, TensorFlow, Keras).

## Publications

- GI@ICSE "LLM-Assisted Crossover in Genetic Improvement of Software" at the 14th International Workshop on Genetic Improvement @ICSE 2025
- SAMOS XXIII "Reliable Basic Block Energy Accounting" at the International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation.

## Dissertation Thesis

- NTUA Production of a reliable C code energy dataset at the Basic Block level, using LLVM, intel-rapl, and intel-perf.
- UCL Novel software performance metrics for software optimization using Genetic Improvement techniques.

## Notable Projects

- **HoarePrompt** : Structural Reasoning About Programs in Natural Language
- **Expansion of the MAGPIE G.I framework**, with new fitness functions and LLM-assisted crossover
- **Microservices based LLVM Verification tool** for C function autocompletions using symbolic execution and static analysis
- **Parameter Optimization and Rightsizing Models** for the **Green Software Foundation** Project Impact Engine Framework (Team Leader), in collaboration with **NTT Data**
- **Custom OS implementation** from scratch for Armv8-A , implemented on Raspberry Pi 3
- **Distributed Neural Network Training Pipeline**, using Tensorflow
- **Beta prototype of smart phone app**, processing user data to calculate danger level of public spaces for COVID-19 transmission
- **Electric car charging Station system**, user interface, cli and backend development
- **Home Security system** with password protection , using EasyAVR6 board
- **Parametrized Debayering Filter** design for ZYNQ SoC FPGA, using Xilinx Vivado - ISE

## Languages

- English Fluent - **C2**
- French Intermediate - **B2**
- Greek Native