

Dr Ioannis MAVROMATIS

Senior Research Engineer

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Core Skills

- › 5G Systems and V2X Communications
- › Design/deployment of Real-world Testbeds
- › Cloud-Native Systems and Architectures
- › Link/system-level Network Simulation Frameworks
- › Experience in Large-scale Real-world Field Trials
- › Wireless Standards and Network Stack
- › Software Engineering and Development
- › Bid Writing
- › Analytical thinking and logical problem fragmentation
- › Scientific problem solving

Professional Experience

Research & Industrial Positions

- 10/2020 - **Senior Research Engineer**, *Bristol Research & Innovation Laboratory, Toshiba Europe Ltd.*, Bristol, UK.
› **UMBRELLA** - Development and deployment of a real-world Cloud-Native Backend IoT Platform.
› **SYNERGIA** - Serverless Architecture solutions for enhanced Cybersecurity.
› **CYTHEMIS** - Improvement/demonstration of an end-to-end Intrusion Prevention System.
- 08/2019 - **Honorary Research Associate**, *University of Bristol*, Bristol, UK.
› Migration of AI-assisted Intelligent Transportation Solutions with Cloud-native and Mobile Edge Infrastructures.
- 08/2019 - **Research Engineer**, *Bristol Research & Innovation Laboratory, Toshiba Europe Ltd.*, Bristol, UK.
- 09/2020
› **UMBRELLA** - Development and deployment of a real-world Cloud-Native Backend IoT Platform.
› **CAVShield** - Leading/contributing on WP2: Cybersecurity on Cooperative Intelligent Transportation Systems.
› **CYTHEMIS** - Improvement/demonstration of an end-to-end Intrusion Prevention System.
- 10/2018 - **Research Associate**, *University of Bristol*, Bristol, UK.
- 08/2019
› **NG-CDI** - Development of an open-source AI-assisted 5G simulator for C-ITSs (DRIVE framework).
› **FLOURISH** - Development of a Fog Computing platform for large-scale connected vehicles experimentation.
- 02/2016 - **Research Assistant**, *University of Bristol*, Bristol, UK.
- 09/2018
› **FLOURISH** - Deployment of a large-scale ITS-G5 vehicular communications platform.
- Demonstration of city-wide connected vehicle trials and data analysis.
- Development of a parallelised version of the OMNeT++ INET framework.
› **VENTURER** - "Virtual Driving Testbed" Development - in-lab experimentation on vehicular communications.
- 04-09/2012 **Network Research Assistant (intern)**, *University Carlos III of Madrid (UC3M)*, Madrid, Spain.
› **FLAVIA** - Improvements on Energy Efficiency for WLAN networks, focusing on the IEEE 802.11b/g/n/u.

Networking and IT Positions

- 05-08/2013 **IT and Network Support and Consultant**, *"Unifast" Kiriakoulis Georgios*, Thessaloniki, Greece.
- 07-10/2008
› Planning and deploying IT and networking (wired/wireless) solutions for local businesses.
› Consulting on Enterprise Resource Planning (ERP) systems.
- 07-08/2007 **IT and Network Support and Consultant**, *TITAN Cement*, Thessaloniki, Greece.
› Planning and deploying IT and industrial wired networking solutions.
› Programming/Testing PLC and SCADA automation systems.

Teaching Assistant / Lab Demonstrator

- 2014 - 2018 **Teaching Support Assistance**, *University of Bristol*, Bristol, UK.
› ~360 h of teaching in Programming- and Networking-related topics.

Education

- 10/2014 - **PhD in Communications**, *Dept. of Electr. & Electron. Engineering, University of Bristol*, Bristol, UK.
- 10/2018
› **1st Year's Research Group Project**: "Localisation Of Strayed Targets (LOST)" (taught phase).
› **PhD Title**: "5G Communication Framework for Smarter Autonomous Vehicles" (research phase).
- 09/2013 - **MSc in "Wireless Communications and Signal Processing"**, *Dept. of Electr. & Electron. Engineering, University of Bristol*, Bristol, UK, Grade: 68% - Pass with Merit.
- 09/2014
› **MSc Thesis**: "Propagation Modelling using Iterative Physical Optics".

05/2007 - **BSc in “Information Technology Engineering”**, *Dept. of Information Technology, ATEI of Thessaloniki*, Thessaloniki, Greece, *Grade: 7.22/10*.

➤ **BSc Thesis:** “Studying Quality of Experience (QoE) over Wireless Networks”.

Awards, Patents, Grants & Scholarships

07/2020 **Innovate UK Grant no. -**, £2,177,375, SYNERGIA Project, Bid Writer, Principal Backend Architect.

03/2020 **U.S. Patent**, *US449398*, System and Method for Detecting and Rectifying Concept Drift in Federated Learning (*filed*).

01-03/2020 **Innovate UK Grant no. 133989**, £427,480, CAVShield Project, Work Package Leader, Bid Writer.

05/2019 **IEEE Best Paper Award**, *IEEE Vehicular Technology Conference (IEEE VTC-Spring)*, 2019.

12/2018 **IEEE Popularity Award**, *IEEE Vehicular Networking Conference (IEEE VNC)*, 2018.

09/2014 **Full EPSRC Studentship Funding**, *University of Bristol, UK*.

Personal Development

Training and Certifications

08/2020 **“Kubernetes MasterClass : Kubernetes & Docker Swarm for DevOps”**, Udemy, (Expected).

08/2020 **“Machine Learning”**, Coursera, organised by Stanford University, (Expected).

02/2011 **Cisco Certified Network Association (CCNA)**, *Dept. of Information Technology, ATEI OF THESSALONIKI*, Thessaloniki, Greece.

08/2008 **Network Administration Professional Certificate**, *Vellum Global Educational Services, UNIVERSITY OF CAMBRIDGE*, Thessaloniki, Greece.

Summer Schools

06/2018 **“5G V2X Communications Summer School”**, Organised by: King’s College London, London, UK..

07/2016 **“Car as a Service - creating tomorrow’s smart mobility service platform”**, Organised by: BMW, EURECOM, and Technische Universität München, Tegernsee, Germany..

Technical Skills

Virtualisation: Docker, Docker Compose, Proxmox.

Automation: Kubernetes (K8s, K3s, MicroK8s), Vagrant, Ansible, Jenkins.

Programming: C, C++, MATLAB, Bash, GoLang, Java, Python, HTML, CSS, Javascript, PHP.

Databases: MySQL, PostgreSQL, InfluxDB, IBM DB2.

Networking: HAProxy, Nginx, Wireshark/Tcpdump, Iperf3, OpenVPN, DHCP, DNS, FTP, LDAP, Nmap.

Monitoring: Grafana, Prometheus.

Productivity: Git, Jira, Trello, LaTeX, MS Office.

SDRs: National Instrument’s LabVIEW, GNU Radio.

Simulators: OMNeT++ (including Veins), SUMO, NS-2, NS-3, OPNET.

OSs: Linux-based Distributions (including kernel and driver programming), OS X, MS Windows.

Video/Image: Adobe software suite (After Effects, Photoshop and Premiere), GIMP, OmniGraffle.

Volunteering

- Industrial Mentoring Scheme for the Faculty of Engineering of the University of Bristol.
- Technical Program Committee member for several conferences.
- Organisation of the annual “CDT in Communications” conferences.
- Organisation of outreach activities of the University of Bristol for post-16 year old pupils.
- Organisation of Media Days and Public Events for FLOURISH and VENTURER projects.
- SYMBIOSIS - Journalist and event organiser: Anti-racism, multi-cultural environments for the diversity of humans.

Interests & Hobbies

Basketball, Cycling, Video and Photo Editing, Travelling, Sketching, Chess.