Jon Larrea

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INTERESTS

Mobile Networks and Computer Networking

EDUCATION

Ph.D. in School of Informatics at *The University of Edinburgh* Jan 2021 – Present
Topic: Towards Future Mobile Networks: From Cloud Native Systems to Radio-Aware Networks

MSc by Research in School of Informatics at *The University of Edinburgh* Dec 2019 – Dec 2020
Program: ICSA (Comp. Architecture, Compilation & System Software, Networks & Communication)
Thesis: Towards Scalable and Realistic Emulation of Mobile Radio Access Networks for Core Network Evaluation

B.S. in Polytechnic School at *Autonomous University of Madrid* Sep 2015 – Jun 2019
Program: Computer Science and Engineering
Thesis: Ad hoc modular OS design for high-performance environments

WORK EXPERIENCE

Research Visitor, Princeton/UCSD, US Jul 2023 – Sep 2023
Working with Kyle Jamieson and KC Claffy

Research Intern, Microsoft Research, Cambridge, UK Jun 2022 – Sep 2022

Computer Communications and Networks, University of Edinburgh Spring (2020, 2021 and 2022)
Roles: Teaching Assistant and Marker

AR software engineer, VPULab Research Group, Madrid, Spain Apr 2019 – Aug 2019

Malware analyst, S21Sec, Madrid, Spain Sep 2018 – Dec 2018

RESTFul Services developer, Knowledge Engineering Institute, Madrid, Spain Jun 2016 – Sep 2016

PUBLICATIONS

Andrew Ferguson*, **Jon Larrea*** and Mahesh K. Marina, *"CoreKube: An Efficient, Autoscaling and Resilient Mobile Core System"*, Conditionally accepted for (**MobiCom'23**).
(*) Co-primary authors.

Jon Larrea, Mahesh K. Marina and Jacobus Van der Merwe, *"Nervion: A Cloud Native RAN Emulator for Scalable and Flexible Mobile Core Evaluation"*, in ACM International Conference on Mobile Computing And Networking (**MobiCom'21**), Mar 2022.

Rupendra Nath Mitra, Mohamed M. Kassem, **Jon Larrea** and Mahesh K. Marina, *"CUPS Hijacking in Mobile RAN Slicing: Modeling, Prototyping, and Analysis"*, in IEEE Conference on Communications and Network Security (**CNS**), Oct 2021.

Jon Larrea and Antonio Barbalace, *"The serverkernel operating system"*, in ACM International Workshop on Edge Systems, Analytics and Networking (**EdgeSys'20**), Apr 2020.

AWARDS & SCHOLARSHIPS

SICSA Research Scholar award Apr 2023
The Scottish Informatics and Computer Science Alliance (SICSA).

ACM Student Research Competition Mar 2022
1st place in ACM SRC at MobiCom 2021.

PhD Studentship Jan 2021 – Dec 2023
School of Informatics, The University of Edinburgh

MSc by Research Studentship Dec 2019 – Dec 2020
School of Informatics, The University of Edinburgh

Research Scholarship 2019
Autonomous University of Madrid

Madrid Merit Scholarship 2018 – 2019
Community of Madrid

SELECTED PROJECTS

CoreKube
A cloud-native autoscalable and resilient core network architecture for 4G and 5G mobile networks.

Nervion
A cloud-based RAN emulator that supports the generation of control and data plane loads for 4G and 5G networks using a novel design that enables scalability and flexibility.

Serverkernel
Single space-address operating system for Raspberry Pi that allows the user to offload computations and get the result.

REFERENCES

Mahesh K. Marina
Jacobus (Kobus) Van der Merwe