

# Jonatan Langlet

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Swedish

## PhD Candidate - Network Monitoring

### Education

- 2020–Present **PhD, Networking Systems**, QUEEN MARY UNIVERSITY OF LONDON
- Researching streaming data analysis and monitoring systems for intelligent networks
  - Focus on algorithms, data structures, and systems at the intersection of software and hardware
- 2019–2020 **MSc, Computer Science**, KARLSTAD UNIVERSITY
- Graduated one year early due to PhD offers
  - Graduated with the highest grade average of my class yet again
  - Thesis: Offloading Virtual Network Functions–Hierarchical Approach
- 2016–2019 **BSc, Computer Engineering**, KARLSTAD UNIVERSITY
- Graduated with the highest grade average of my class
  - Thesis: Towards Machine Learning Inference in the Data Plane

### Work Experience

- June–July 2023 **R&D Engineering Internship**, INTERNET INITIATIVE JAPAN
- On-site prototype development of a new network fabric for a Japanese ISP
- Mar–Oct 2022 **Research Fellow**, HARVARD UNIVERSITY
- Led research into hyperscale network monitoring techniques for fine-grained telemetry
  - I worked with Prof. Michael Mitzenmacher and Prof. Minlan Yu at Harvard Systems+Theory
- 2020–2022 **Lab- and Teaching Assistant**, QUEEN MARY UNIVERSITY OF LONDON
- Teaching Distributed Systems for Master's students
- 2019–2020 **Research Assistant**, KARLSTAD UNIVERSITY
- Researching in-network acceleration for machine learning and 5G core networks
- 2019 **Teaching Assistant**, KARLSTAD UNIVERSITY
- Teaching Data Structures & Algorithms for Bachelor's students
- 2011–2016 **Owner/Developer**, TANAPPS
- Sole proprietorship focusing on web application development and software development
  - Installation and maintenance of a virtualization cluster for hosting clients' applications
- 2011–2013 **IT Technician**, FOUREDGE
- Server installation/maintenance with a main focus on Linux and virtualization
  - Sysadmin consultant for clients, designing and maintaining IT environments
  - Second line helpdesk support, troubleshooting server issues

### Publications

- 2024 **ACM SIGMETRICS**, *Lightweight Acquisition and Ranging of Flows in the Data Plane*  
Andrea Monterubbiano, **Jonatan Langlet**, Stefan Walzer, Gianni Antichi, Pedro Reviriego Vasallo, and Salvatore Pontarelli
- 2023 **ACM SIGCOMM**, *Direct Telemetry Access*  
**Jonatan Langlet**, Ran Ben Basat, Gabriele Oliaro, Michael Mitzenmacher, Minlan Yu, and Gianni Antichi

- 2022 **IEEE TMC**, *Hybrid P4 Programmable Pipelines for 5g gNodeB and User Plane Functions*  
Suneet Kumar Singh, Christian Esteve Rothenberg, **Jonatan Langlet**, Andreas Kassler, Péter Vörös, Sándor Laki, and Gergely Pongrácz
- 2021 **ACM HotNets**, *Zero-CPU Collection with Direct Telemetry Access*  
**Jonatan Langlet**, Ran Ben Basat, Sivaramakrishnan Ramanathan, Gabriele Oliaro, Michael Mitzenmacher, Minlan Yu, and Gianni Antichi
- 2019 **IEEE EuroP4**, *Towards Neural Network Inference on Programmable Switches*  
**Jonatan Langlet**, Andreas Kassler, and Deval Bhamare

## Community Work

- 2023 **Paper Review**, *IEEE/ACM Transactions on Networking*
- 2022 **Paper Review**, *IEEE Transactions on Network and Service Management*

## Awards, Certificates, and Extra Courses

- 2022 **Brendan Murphy Prize winner**, I was awarded the Brendan Murphy Young Researcher prize of 2022
- 2021 **NVIDIA DPU Course & Hackathon**, A crash course on a new programmable NIC
- 2020 **Xilinx Adaptive Compute PhD school**, A week-long course on FPGA development
- 2019 **Barefoot Academy BA-102**, A week-long course on P4-programmable Tofino switches
- 2012 **ITIL Foundation Certification**
- 2011 **Cisco CCNA Discovery**

## Skills

Soft Skills	Collaborative, Fast Learner, Organized, Goal Oriented, Eye for Details
Programming	Python, P4, C, C++, Java, PHP, C#, Bash, among others
Software	Linux, Git, Docker, DPDK, VMware ESXi, MySQL, AWS, among many others

## Languages

Swedish	Mothertongue	
English	Fluent	<i>Main working language</i>
Bosnian/ Croatian/ Serbian	Basic	<i>Basic words and phrases only</i>

## Interests (non-work)

- Animals
- Video games
- Running
- Dog training
- Board games
- Hiking
- Geocaching