

# Andréas Guillot

PhD student in Computer Science

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## Web

[Website](#)

[GitLab](#)

## Address

ICube — Pôle API  
Office C232

## Expertise

### Security

Firewall, Cryptography,  
Certificates, VPN

### Statistics

Time series analysis,  
classification, evaluation

### Machine Learning

Supervised learning,  
neural networks

### Routing

OSPF, IS-IS, RIP, BGP,  
MPLS

### Network Administration

Cisco, Juniper, IPv4, IPv6

### Programming

Python, C, Java, C#, C++

### Miscellaneous

Database Management  
and Administration, UNIX  
systems, QoS, Version  
Control,  $\LaTeX$ .

## Languages

### French

Mother Tongue

### English

Fluent (C2)

### Japanese

学生

## Personal Interests

**Hiking** and camping

**Travelling** to other  
countries

**Sports**, particularly  
climbing

## Research

- 2018/10- **PhD student** [Network Research Group, ICube, Strasbourg](#)  
Subject: Development of a secured workflow.  
Research interests: security, privacy, distributed systems, workflow management.  
Supervisors: Prof. [Cristel Pelsser](#) and [Fabrice Théoleyre](#).
- 2018/01–07 **Research Assistant** [Network Research Group, ICube, Strasbourg - Report](#)
- 2018/06–07 **Internship in Japan** [IIJ-II, Tokyo](#)  
*Internet Background Radiation and Outage Detection:*  
State-of-the-art of outage detection.  
Analyzed *Internet Background Radiation* traffic to passively detect outages from a single vantage point using time series analysis and forecasting.  
Supervised by Prof. [Cristel Pelsser](#), [Pascal Mérindol](#), and Senior Researcher [Romain Fontugne](#) (IIJ).
- 2017/01–08 **Research Assistant** [Network Research Group, ICube, Strasbourg - Report](#)  
*Towards a hybrid approach for monitoring IP networks:*  
Studied and analyzed methods from both passive and active monitoring; state-of-the-art of IP network monitoring.  
Analyzed *control plane* messages to infer the target network's state; classified messages into network events to reconstruct its topological evolution.  
Supervised by Prof. [Pascal Mérindol](#).
- 2016/05–06 **Internship in a research team** [Network Research Group, ICube, Strasbourg](#)  
Analyzed routing data such as multi-paths or *control-plane* messages to model the ISP's network topology at any given time; computed the shortest paths on these topologies to determine the *forwarding-plane*.  
Supervised by Prof. [Pascal Mérindol](#).

## Education

- 2016–2018 **Master's degree in Computer Science** [University of Strasbourg](#)  
'Computer Networks and Embedded Systems':  
Networking Protocols, Inter-Domain Routing, Performance Evaluation, Distributed Algorithms, Compilation, Security, Embedded Systems  
*Ranking — 1/25*
- 2013–2016 **Bachelor in Computer Science** [University of Strasbourg](#)
- 2015/01–07 **ERASMUS semester** [VIA University College, Horsens \(Denmark\)](#)  
Graph Theory, Database Management, Intra-Domain Routing and L2/L3 forwarding, Language Theory, Data Structures and Algorithms
- 2011–2013 **(First two years of) Bachelor in Biology** [University of Strasbourg](#)  
Genetics, Biodiversity, Immunology, Scientific Reasoning

## Invited Speaker

- 2018/09 **IMAPS Workshop 2018** [CAIDA, University of California San Diego - Slides](#)  
Internet Measurement And Political Science workshop.  
Presentation: Detecting outages using unsolicited Internet traffic and SARIMA

## Teaching

2018–2019	<b>Introduction to programming in Python</b> First year of Masters degree in Geography: Variables, conditions, loops, functions, basic data structures.	<a href="#">University of Strasbourg</a>
2018–2019	<b>Networks and Protocols</b> Third year of <u>Bachelor degree in Computer Science</u> : Introduction to network administration on Juniper routers: IPv4, IPv6, OSPF, VLAN.	<a href="#">University of Strasbourg</a>
2018–2019	<b>Data Structures I</b> Second year of <u>Bachelor degree in Computer Science</u> : C programming of data structures such as stacks, queues or lists.	<a href="#">University of Strasbourg</a>

## Reviews for

- Computer Communications

## Projects

2016	<b>Packet Analyzer (C)</b> Developed a program that extracts information out of packets. It supports multiple protocols, such as DNS, HTTP, or SMTP.	<a href="#">Source code</a>
2016	<b>Latex → Assembly Compiler (C)</b> Developed a compiler that extracts <i>algorithm2e</i> code from latex files and generates the corresponding assembly (mips) file.	<a href="#">Source code</a>
2018	<b>Machine Learning (Python)</b> An introduction to machine learning with the analysis of a meteorological time series using a <i>multilayer perceptron</i> .	<a href="#">Code and Documentation</a>
2017	<b>Openflow and SDN (Python)</b> An introduction to simple problems that are relevant to Software-Defined Networking.	<a href="#">Code and Documentation</a>