International Master in Computer Science

Sophia Antipolis, France
http://mastercs.unice.fr/
CS Master at UNS

• Two-year program (a.k.a, M1 & M2)
  • Contacts:
    - M1 Frédéric Mallet
      http://www.i3s.unice.fr/~fmallet
    - M2 Guillaume Urvoy-Keller
      http://www.i3s.unice.fr/~urvoy/
  • Entry points in first or second year
  • Last semester M2: internship in company or in a research team
• New « Accreditation » in 2018:
  • Part of the Master in Computer Science
  • Application through e-Candidat (Master Informatique)
    https://ecandidat.unice.fr/
  • After arrival, select modules in English or in French
To apply

- 1st round: February to April
- Fees: 500 € including social security*
- Scholarships: Labex UCN@Sophia, EUR DS4H, other sources on Web site

* Actual cost for the French state 8000 €
The Labex scholarship program

- Labex is a virtual lab on Sophia federating INRIA, I3S, LEAT and Eurecom: [http://www.ucnlab.eu/](http://www.ucnlab.eu/)
- Foster Research and Teaching
- Offers scholarships for outstanding students
- (approximate) Capacity: 6 scholarships for M1 int and 7 for Ubinet
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Located in Europe's largest scientific park, Sophia Antipolis, France

This program is hosted by the University of Nice Sophia Antipolis (Department of Computer Science)

Web Site: http://mastercs.unice.fr/M1FCS
M1 Foundations in Computer Science

• Semester 1 Mandatory
  – 2 projects
  – Software Engineering
  – French or English

• Semester 1 Elective (in English)
  – AI Game Programming
  – Logic
  – Programming Challenge
  – Advanced Programming
  – Computer Networks
  – Images
  – Neural Network and Learning
  – Safety Critical Systems
  – Parallelism
M1 Foundations in Computer Science

• Semester 2 Mandatory
  - 2 projects
  - Project management

• Semester 2 Elective (in English)
  - Web
  - Operations Research
  - Combinatorial Optimization
  - Communication and Concurrency
  - Internet of the Future
  - Graphs
  - Software Engineering
  - Advanced OS
  - Winter School
Winter Schools

• Give students an initiation to research
• 2 WS of one week each in January:
  • Complex networks
  • Verification and Computer proof (CoQ)
• Open to MsC and PhD students
# Winter School Complex networks

- Responsible : G. Neglia, INRIA
- Program of this year : 

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<th>Wednesday 17/1</th>
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<td>Introduction to Complex Networks (rooms k1-k2, 14.00-16.00) G. Neglia</td>
<td>Epidemics in Complex Networks (part 2) (rooms k1-k2, 8.00-10.00) G. Neglia</td>
<td>R&amp;D Networks : Theory and Empirical Evidence (rooms k1-k2, 10.15-12.15) M. Napoletano</td>
<td>Software tools for Complex Networks analysis (rooms k1-k2, 8.00-12.00) F. Huet</td>
<td>Random-Walk based algorithms and classification (room 282, 9.00-12.00) K. Avrachenkov</td>
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<td>Introduction to Complex Networks (rooms k1-k2, 16.15-18.30) G. Neglia</td>
<td>Navigation in Small Worlds (rooms k1-k2, 14.00-17.00) N. Nisse</td>
<td>Semantic Web and Linked Data Graphs (room 282, 14.00-17.00) F. Gandon</td>
<td>Statistical learning on Networks with textual edges: the Enron case (room k1-k2, 14-16) C. Bouveyron</td>
<td>Complex Network Analysis for Mobility Modeling (rooms k1-k2, 14.00-15.30) T. Spyropoulos</td>
<td>Exam (room 282, 14.00-16.00)</td>
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Web Site: http://mastercs.unice.fr/M2ubinet
The Ubinet track

- 2nd year of master (M2)
- The international track of the Computer Science Master at UNS
- 100% in English
- Research oriented: 30 to 50% students start a PhD after
- 15-25 students at most
- Professors from:
Ubinet Objectives

Objective
- Help students to meet the challenges and make the technological choices of tomorrow in the domains of:
  - The Internet
  - Distributed Systems and Cloud

Keywords
- Emerging trends in networking, e.g., Software Defined Networking
- Distributed Systems: foundations, high performance computing, cloud
- Analysis methods: performance evaluation, graph theory
- Open up to key related domains, e.g., security.
Technical courses (100% in English) – Semester 1

Mandatory courses

- Networking (4 ECTS)
  - Evolving Internet
  - Content Distribution in Wireless Networks

- Performance (4 ECTS)
  - Graph Algorithm and Combinatorial Optimization
  - Performance Evaluation

- Large Scale Applications (4 ECTS)
  - An Algorithmic Approach of Distributed Systems
  - Large Scale Distributed Systems

- Software Engineering for Networked Systems (4 ECTS)
  - Network on Chip
  - Middleware for Internet of Things

- Personal project (6 ECTS)

Electives courses (4 to pick out of 7)

- Security (4 ECTS)
  - From BitTorrent to Privacy
  - Information Security and Privacy

- Performance (4 ECTS)
  - Algorithms for Telecom
  - Distributed Optimization and Games

- Network and Cloud (4 ECTS)
  - Virtualized Infrastructure in Cloud computing

- Internet Measurement and New Architectures

- Green Networking
You own a labex grant: Master thesis in one of the UCN@Sophia Labex associated academic institutions

Otherwise, benefit from Sophia environment
Internship List 2017-2018

Contents

1 Distributed Approaches for Graph-based Unsupervised Learning
2 Optimization algorithms for Network Slicing for 5G
3 The network of the future in Industry 4.0.
4 What happens if we replace the Uber platform by a blockchain?
5 ACQUA – A data-driven approach for network and Quality of Experience monitoring
6 Performance analysis and optimisation of distributed and parallel C++ codes
7 Maintaining wireless sensor networks using drones and wireless power transfer
8 Exploration d'insertion de méthodes formelles dans un flot de conception d'architecture SW
9 Composing Code Rewriting Directives
10 Optimizing jointly Data Center Servers and Network
11 ElectroSmart: Revealing your exposition to the electromagnetic waves
12 Routing in multimodal networks with bicycles
13 Enhancing urban mobility with shared on-demand services

13 topics shown...out of 29
What do you do after?

Over the last 5 years, 30 % of PhD thesis

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