# UvA Master Evening February 14, 2019 — Computer Science —

A Joint Master Degree offered by:







February 14, 2019

**UvA Master Evening date: Computer Science** 

#### Your hosts today:

#### Stephen Swatman

Master student Computer Science

#### Alban Ponse

Associate prof. (UHD) Computer Science (UvA) UvA program coordinator

#### Our programme today:

The Joint-Degree Master in Computer Science in Amsterdam



Who is us ?





UNIVERSITY OF AMSTERDAM

# Two universities for the price of one !!



# UvA and VU joint Master of Science Programme

# Disadvantage:

Two teaching locations: Zuidas and Science Park

#### **Advantages:**

- A Joint Degree: One diploma issued by both universities
- Larger selection of courses
- More research opportunities for graduation projects
- More first-class researchers at your finger tips
- More resources
- More of everything ...



# MSc Computer Science UvA+VU

#### Fact Sheet:

- 2 years
- 120 ECTS credits
- Taught in English
- Internationally visible
- International student population
- Leading to a position in industry (in NL and abroad)
- Leading to a position in industrial research
- Leading to a career in academia



# **Curriculum Structure**

#### Four pillars:

- Master Core (42 EC)
- Choice of 6 tracks (30 EC):
  - Big Data Engineering
  - Computer Systems Security
  - Foundations of Computing and Concurrency
  - Internet and Web Technology
  - Parallel Computing Systems
  - Software Engineering and Green IT
- Constrained Choice packages (12–18 EC)
- Free Choice courses (30–36 EC)



# Master Core (42 EC)

- One course (6 EC) on the social context of computer science:
  - History of Digital Cultures: on history of computing
  - ICT for Development: on ICT in developing countries
  - ICT4D in the Field: an ICT project in a rural community
  - E-commerce Law: on legal issues for on-line business
  - Entrepreneurship in AI and CS: on starting a company
- Literature Study and Seminar (6 EC) investigating existing solutions to a research question and presenting findings within one of the research groups
- Graduation Project (30 EC) independently executing a project, turning everything learned so-far into a master piece



# Track: Big Data Engineering (30 EC)

#### Track theme:

How to cope with the enormous amounts of data on e.g. the Internet and social media and in companies

#### Track core:

- Data Mining Techniques
- Information Visualization
- Large-Scale Data Engineering
- Web Services and Cloud-based Systems
- Web Data Processing Systems

# Track coordinator:



Dr Adam Belloum (aszbelloum.wixsite.com/aszbelloum)

# Track: Computer Systems Security (30 EC)

#### Track theme:

Security of computer networks from a system's point of view

#### Track core:

- Hardware Security
- Computer and Network Security
- Binary and Malware Analysis
- Kernel Programming
- Distributed Algorithms

#### Track coordinator:

Prof.dr Herbert Bos



(www.vusec.net/people/herbert-bos/)

# Track: Foundations of Computing and Concurrency (30 EC)

#### Track theme:

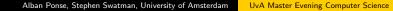
Apply formal methods in computing and concurrency

#### Track core:

- Protocol Validation
- Distributed Algorithms
- Advanced Logic
- Logical Verification
- Term Rewriting Systems

### Track coordinator:





Track: Internet and Web Technology (30 EC)

#### Track theme:

Software technology for web, internet, and cloud computing

#### Track core:

- Internet Programming
- Distributed Algorithms
- Performance of Networked Systems
- Web Services and Cloud-based Systems
- Distributed Systems

# Track coordinator:



Dr Jacopo Urbani (www.jacopourbani.it/)

# Track: Parallel Computing Systems (30 EC)

#### Track theme:

 Large-scale parallel computing (clusters, grids, clouds, mainframes)

#### Track core:

- Parallel System Architectures
- Programming Large-scale Parallel Systems
- Parallel Programming Practical
- Programming Multi-core and Many-core Systems
- Performance Engineering

# Track coordinator:



(For now) Dr Jacopo Urbani (www.jacopourbani.it/)

# Track: Software Engineering and Green IT (30 EC)

#### Track theme:

 Systematic and quantifiable approaches to the development, execution and maintenance of software

### Track core:

- Service Oriented Design
- Software Asset Management
- Green Lab
- Software Architecture
- Software Testing

# Track coordinator:

Prof.dr Patricia Lago

(www.s2group.cs.vu.nl/people/patricia-lago/)

# Looking Beyond your Track

Ensuring the breadth of each individual study program

Constrained choice modules (12–18 EC):

- One course on foundations
- One course on software engineering
- One course on programming
- One course on mathematics
- Each to be chosen from a predefined set of choices
- Partially covered by the chosen track's core



#### **Free Choice Courses**

#### Free Choice (30–36 EC):

- Courses from other tracks (pre-approved)
- Other courses from constrained choice packages (pre-approved)
- Any course from your track's pre-approved list of suggestions
- Any other course (Master-level) from Computer Science, Computational Science, Logic, Artificial Intelligence, or Bioinformatics (to be approved by exam committee)



YOU decide about much of the study programme

#### Want to go to industry ?

Do your graduation project as an internship with a company

#### Want to go for a PhD / more ambitious job ?

- It is possible to combine
  - literature study
  - individual project
  - graduation project
  - to a larger scientific research project (up to 42 EC)



# Admission to the Programme

#### For university students

- BSc degree in Computer Science or Informatica (or closely related subject)
- Other degrees: individual assessment

#### For HBO students

- BSc degree in Informatica (or closely related subject)
- Individual assessment of strengths and deficits
  - Additional courses from our BSc/MSc programmes as necessary



Why you should join the VU/UvA Master in Computer Science

#### Some good reasons:

- ▶ VU and UvA are among the top universities in Europe
- Learn from renowned scientists
- Small student groups, staff is easily accessible
- Wide choice of courses
- Become part of a research group for your graduation project
- Modern state-of-the-art facilities
- International environment at home
- Excellent job market for graduates (academia or industry)
- Get two universities for the price of one



# The End — links and more information

www.vu.nl/ma-computerscience

#### Programme director:

Prof.dr Wan Fokkink (www.cs.vu.nl/~wanf/)

#### **UvA contacts:**

- For BDE: dr Adam Belloum (aszbelloum.wixsite.com/aszbelloum)
- General and for FCC: dr Alban Ponse (staff.fnwi.uva.nl/a.ponse/)
- For questions to Stephen: (stephen.swatman@student.vu.nl)

**These slides:** my home page - MSc Computer Science (slide deck)