JESICS+ "Bring CogSci to Egypt"
Joint Educational (E-)Services for Interdisciplinary Computing Studies
Outline

● Why?
  ○ Digitization Strategy.

● How?
  ○ Collaborations, Trainings, & Migration.
  ○ Highlight Events.
  ○ Sustainable Online Platform.
  ○ Joint Study Projects.

● Adaptations
  ○ COVID-19.
  ○ Cancellations of School and Summer Training.
  ○ Online School & Hackathon.

● Outlook
JESICS+ "Bring CogSci to Egypt"
Joint Educational (E-)Services for Interdisciplinary Computing Studies

Inception

- **JESICS** – DAAD funded research project 2015 - 2018
- **Dr. Ahmed Abdelfattah (ASU Cairo)** & **Prof. Kai-Uwe Kühnberger (IKW Osnabrück University)**
- Aim: Build an **AI & Cognitive Science** teaching & research practice at FOS, ASU based on the experience of UOS
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**Success story**

- Research (*publications, MSc. & PhD theses*)
- **AI&CogSci Lab** (*EEG, eyetracking, etc.*)
- Exchange activities & Trainings
- Intl’ Participation (*conferences*)
- Organization (*workshops, schools*)
- Spring Schools (*international figures*)
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Challenges
- Infrastructure
- Rigid University structures
- Lack of knowledge & training in CogSci & experimental research
- Funding for teaching / staff
- Continuity ...

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2019-2020: JESICS+ ( J6 + )
JESICS+ "Bring CogSci to Egypt"
Joint Educational (E-)Services for Interdisciplinary Computing Studies

Development and Application of Educational Technology

1. Develop core curriculum
2. Digitize curriculum in eLMS "moodle"
3. Joint study project UOS & ASU
4. Kickoff teaching & graduation projects

Objectives
[2] Provide services for digitized education at ASU / Egypt
[3] Strengthen bilateral cooperations
[4] Strengthen student employability

Resources
- ASU Lab "AI & CogSci"
- ASU students' skills in computer science
- UOS Institute of Cognitive Science
- virtUOS
How to bring CogSci to Egypt?

Measures
How to bring CogSci to Egypt?

Measures

- Enhance infrastructure
  - install Server & Wifi
How to bring CogSci to Egypt?

**Measures**

- Enhance infrastructure
  - install Server & Wifi
- Core curriculum in Cognitive Science
  - e-Learning Management System (free & open source)
  - Lecture recordings / Multimedia course
  - Interactive quizzes, online assessments, supports user interaction, forums
  - [www.jesics.academy](http://www.jesics.academy)
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How to bring CogSci to Egypt?

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**Joint Study Project**

- Training & Exchange Activities
- Pilot course: "Foundations of CogSci"
How to bring CogSci to Egypt?

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  - Pilot course: "Foundations of CogSci"
- Certification

Advanced Training Certificate

A.I. & CogSci Lab

"Foundations of Cognitive Science"

This e-Learning course provides an overview of Cognitive Science topics aligned with practical application examples in Machine Learning, Linguistics, and Neuroscience for Computer Scientists. The course demonstrates the strengths of interdisciplinary computing studies, gives insights into how the human brain works, and thereby inspires to solve modern and complex economic and societal issues. Moreover, understanding the evolution of Cognitive Science, its background and paradigms, broadens the learner's academic and entrepreneurial horizons, as well as inspires and nourishes intellectual curiosity.

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JESICS+ (Egyptian project PI)

Lecturer of Computer Science
Faculty of Science
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Prof. Dr. Kai-Uwe Kühnberger
JESICS+ (German project leader)

Professor of Artificial Intelligence
Institute of Cognitive Science
University of Osnabrück, Germany
Implemented and available:
Many-purpose platform

- Stable, persistent
- Go-to place & virtual lab

Has huge potential

- Full curricula incl. resource management
- Interactive e-Courses
- Lecture streaming
- User interaction and joint learning
- Online events
Implemented and available: e-Course Foundations of CogSci
Necessary Adaptations
Necessary Adaptations

Spring School in Cairo (14.-18.3.2020)

Lectures: AI, Cognitive Computing, Cognitive Modeling, HCI, Virtual Reality in Medical Training

Lab sessions: e-Course, Eyetracking, HCI

100 registered participants
Necessary Adaptations

Quick fix – Online Spring School

Spring School Lectures

Welcome to the JESICS+ Spring School 2020 content page! We apologize that the Spring School could not take place, but have here prepared some content to help you get started with the JESICS+ online learning platform. Enjoy!

INTERACTIVE CONTENT

Welcome to the Spring School

INTERACTIVE CONTENT

Cognitive Science: Historical and Interdisciplinary Perspectives - Video Lecture
Necessary Adaptations

Expanding online resources (summer 2020 & cont.)

- Expand Online “Spring” School
  - Wide selection of speakers & topics possible (academia & industry)
  - Educative & inspirational talks

- Expand lecture content
  - Include lectures from Osnabrück, craft online assessments

- Make platform even more accessible & interactive
Necessary Adaptations

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- Provide e-Services for FOS at ASU
  - in times of crisis, J6+ was ready to help
  - as service for the faculty, teachers and students
  - mirror (part of) the FOS curriculum online (server @UOS)
Necessary Adaptations
Necessary Adaptations

2-month summer training in Osnabrück (July-Aug. 2020)
Necessary Adaptations

Highlight event: Online Hackathon (Oct. 2020)

- Hackathon: **design-sprint** with programming challenges
  - Teamwork – Cairo student teams of 4
  - Highly engaging and motivating

- Requires **knowledge transfer**
  - Apply methods from the online lectures to realistic problems

- **Mentoring** by Osnabrück graduate students
  - Interaction on student level

- Live **online project presentations & awarding ceremony**
  - Feeling of community, and of being seen

- Hosted & available on [www.jesics.academy](http://www.jesics.academy)
Necessary Adaptations

Communication & interaction: Tools

- **Slack**
  - communication platform with channels for different topics, private groups and direct messaging

- **BigBlueButton**
  - an open-source web conferencing system (hosted on UOS servers)

- **Google Drive**
  - file storage, makes resources available to all
  - allows to jointly write documents

  - creates a wider community
  - updates of project progress and related ICS news

- … and, of course, Mail, WhatsApp, Telegram, Skype, etc.
Outlook

- **Continuity 🚀**
  - through digitization.
  - through close & extensive collaboration.
  - through an actual structured “migration” (e.g., a joint degree).

- **On the positive side :)**
  - An online platform as a stable & expandable resource ([www.jesics.academy](http://www.jesics.academy))
  - People & community.

- **Challenges !**
  - Sustain a lively research group and a wider community.
Thanks to all active members & supporters!
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Felix Weber  Digitization strategy advisor  
Johannes Schrumpf  Study project advisor  
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Renato Garita  Intro to Robotics Lab  
Johannes Leugering  Intro to Sleep EEG Lab

Technical support
Henrik Jürgens  VirtUOS recording studio  
Ashraf Fathy  ASU Lab infrastructure

The motor of the JESICS+ project, the bilateral study project (ASU & UOS)
Elen Le Foll  
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Luu Zörlein  
Christian Johnson  
Deepak Pathak  
Saurabh Mishra  
Kamel Abdelsalam  
Mostafa Helal  
Assim Shaaban  
Muhammad Ibrahim Ali  
Mohanad Sahwky

The DAAD
Andrea Gerecke (Bonn)  
Mohammed Fathy (Cairo)  
Tamer Maher (Cairo)

and many more …