

Intelligent Systems

Excersice 1- Organisation

Simon Reichhuber October 29, 2019

University of Kiel, Winter Term 2019

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Intelligent Systems Group

INTELLIGENT SYSTEMS LECTURE STAFF



Prof. Dr.-Ing. habil. Sven Tomforde (ST@Informatik.Uni-Kiel.de)

Ma. Sc. Simon Reichhuber (Simon.Reichhuber@Informatik.Uni-Kiel.de)



Courses in Winter Term 2019:

- Intelligent Systems
- Computational Intelligence
- Bachelor Seminar "Selbst-organisierte Systeme"
- Master Seminar "Deep Learning" (together with Koch/Nowotka)

INTELLIGENT SYSTEMS GROUP



Intern:

- Prof. Dr.-Ing. Sven Tomforde
- Claudia Seewald (secretary)
- Simon Reichhuber, M. Sc. (research assitant)
- NN (research assistant)
- Torge Storm (lab engineer)

Extern:

- Ghassan Al-Falouji (external PhD student, OTH Regensburg)
- Michael Meyer (external PhD student, Astyx GmbH)
- Martin Goller (external PhD student, freelancer)
- Ferdinand von Tüllenburg (external PhD student, Salzburg Research)

SIGNATURE TASK



- Signature Task
- Teams of 2-4 members (preferably 3)
- Start: 5th of November 19
- Ongoing Group Challenges per exercise
- Final System Presentation: tba
- Assign your membership on the list until 5th of November 19

Exercise Organisation

EXERCISE SESSION



- Which language?
- Tuesday, 14:15 15:45, LMS2 R.Ü3
- Exercise slides online Wednesday, 10:00
- Presentation and discussion about own solutions
- · Preliminary discussion of the next exercise sheet
- No submission required!
- · Questions are very welcome!
 - especially during exercise or via OpenOLAT

ROADMAP



Exercise 1	Organisation & Python Intro	/	29.10.2019
Exercise 2	Design / Signature Task I		05.11.2019
Exercise 3	Design II / Signature Task II		12.11.2019
Exercise 4	Preprocessing / Signature Task III		19.11.2019
Exercise 5	Representation		26.11.2019
Exercise 6	Similarities		03.12.2019
Exercise 7	Segmentation / Clustering		10.12.2019
Exercise 8	Classification / Anomaly Detection		17.12.2019
Exercise 9	Evaluation / Order		07.01.2020
Exercise 10	Quantification		14.01.2020
Exercise 11	Modelling		21.01.2020
Exercise 12	Learning/ Mutual Influences / Opt.		28.01.2020

Table 1: Exercise schedule

Python introduction and

installation



- High-level programming language
- object-oriented
- Features simple syntax and readability
- Dynamically, inheritance, strong typing
- Large number of libraries available

ANACONDA & JUPYTER NOTEBOOK



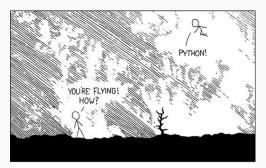
Anaconda

- Anaconda is a distribution for Python (and R)
- Roughly spoken, a package management tool
- Helps to manage various python environments Jupyter
 Notebook →
 - Easy coding and kernel availability within a browser
 - · Python code can be enriched with
 - Normal (possibly marked-up) text
 - Mathematical formula
 - Other types of media (like pictures)
- Will be installed through Anaconda installation

PYTHON TUTORIAL



- 1. Install Anaconda, according to the file *Install_Anaconda.pdf*:
- 2. Download also the file *PythonTutorial.ipynb* from OpenOlat
- 3. Run a jupyter notebook either with
 - » jupyter notebook (im heruntergeladenen Verzeichnis) or with
 - » anaconda-navigator (-> Launch Jupyter Notebook)





NIGHT! EVERYTHING IS SO SIMPLE!

HELLO WORLD IS JUST print "Hello, world!"

I DUNNO ... DYNAMIC TYPING? WHITE SPACE?

> COME JOIN US! PROGRAMMING IS FUN AGAIN! IT'S A WHOLE NEW WORLD UP HERE!

> > BUT HOW ARE YOU FLYING?

I JUST TYPED import antigravity

THAT'S IT?

... I ALSO SAMPLED EVERYTHING IN THE MEDICINE CABINET FOR COMPARISON.

BUT I THINK THIS IS THE PYTHON.