M.Sc. Artificial Intelligence

Welcome, Master Students!

Prof. Dr. Michael Kohlhase
Dr. Felix Schmutterer
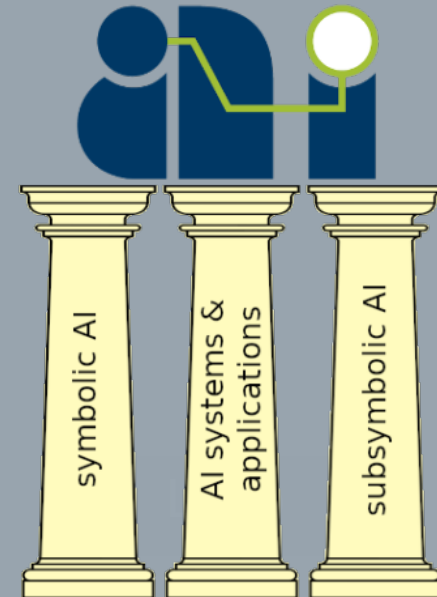
M.Sc. Artificial Intelligence
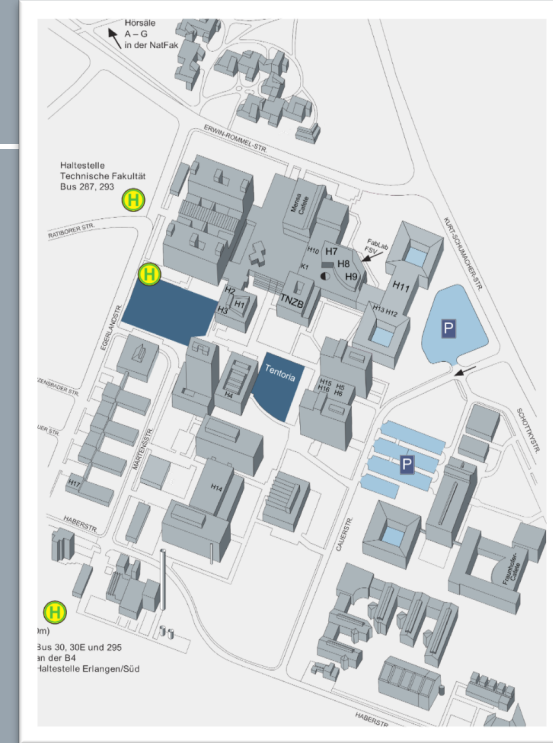
Agenda

- ❑ **Welcome by Prof. Dr. Michael Kohlhase** (program director)
- ❑ **Welcome by FSI Computer Science** (student association)
- ❑ **Welcome by Dr. Felix Schmutterer** (program coordinator)
- ❑ **Introduction to the study program**
- ❑ **„Q&A"**
- ❑ **„Get together"**

M.Sc. Artificial Intelligence

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FAU Erlangen-Nuremberg

Persons in Charge/Contact Persons

- **Program Director**

  Prof. Dr. Michael Kohlhase

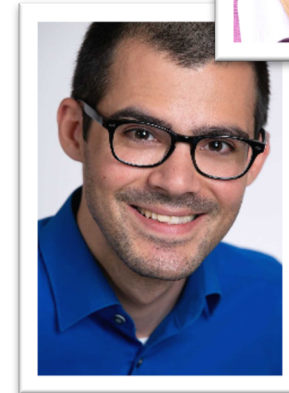 (Professor for Knowledge Representation/Processing)

- **Program Coordinator**

  Dr. Felix Schmutterer

  → advice for your studies
  → accreditation of coursework achievements
  → support with formalities

  studienberatung-ai@fau.de

- **General Study Advisory** (Informations- und Beratungszentrum, IBZ)

  Elisabeth Bächle-Grosso, Halbmondstr. 6-8, 91054 Erlangen, Room: 1.031

  elisabeth.baechle-grosso@fau.de

  → general study-related problems

  → information about changing your study program (advisor for all engineering programs)

  → student visa issues (certificate for foreigners office)

- **Examinations Office Faculty of Engineering** (Prüfungsamt TechFak)

  Heike Barthelmann, Halbmondstr. 6, 91054 Erlangen

  heike.barthelmann@fau.de

  → managing exams, credits, grades online by „mein campus" or by paper certificates, withdrawal from exams (due to illness etc.)

  → Report on conditional subjects/"Auflagen"!

- **International Office Faculty of Engineering**

  Christine Mohr, Erwin-Rommel-Str. 60, 91058 Erlangen

  christine.mohr@fau.de

  → Information about studies/internship abroad

  → General help and support for international students

- **Career Service**

  career-service@fau.de ; www.career.fau.de

  → Help with your job search (also student jobs)

  → Support with applications

  → Check of application documents

  → Training for job interviews

  → Useful workshops and seminars

• Office for Gender and Diversity

Bismarckstraße 6, 91054 Erlangen

gender-und-diversity@fau.de

→ Advice for students with children

→ Help for students with a migratory background

→ Support for women (in cases of violence, harassment)

→ Support for students experiencing discrimination of any kind (due to gender, ethnicity, religion, sexual orientation etc.)

- **Advice for students with disabilities or chronic diseases**

  Dr. Jürgen Gündel, Schloßplatz 3/Halbmondstr. 6, 91054 Erlangen, Room: 1.032, juergen.guendel@fau.de

  → General advice and support (e.g. accessibility of buildings)

  → Compensation of disabilities during examinations (e.g. more time)

- **Psychological support:**

  Elizabeth Provan-Klotz

  Psychologisch-Psychotherapeutische Beratungsstelle
  Computer Science Tower, Martensstr. 3, 91058 Erlangen, Room: 04.154
  Open consultation (anonymous drop-in sessions)

  +49 9131 85-27935

  E-Mail: elizabeth.provan-klotz@werkswelt.de

How to find information?

One weblink to rule them all …

https://www.ai.study.fau.eu
https://www.fau.de

…including today's presentation!

How to find information?

General information on the internet: search the web for "FAU" + keyword

e.g.   FAU + language courses

            FAU + examinations office

            FAU + psychological services

            FAU + semester dates…

M.Sc. Artificial Intelligence

Program Structure

Program Structure

- **General structure of the master program in AI**

    - **Electives [50 ECTS]:** The electives are dedicated to academic research around artificial intelligence and its methodologies as well as offering every student the opportunity to sharpen their individual profile. The electives are centred around the three central pillars of the AI master's programme: **Symbolic AI; Subsymbolic AI; AI Systems and Applications**

    - ➢ Students will have to take a total of 50 ECTS credits worth of elective courses, with at least 10 ECTS from each of the central pillars.

    - **Projects [10+10 ECTS]:** The two required 10 ECTS projects are intended to test students' acquired technical knowledge, research merit and self-organisation skills.

    - ➢ Both projects have to be associated with one of the central pillars discussed above and cannot both be associated with the same pillar.

Program Structure

- **General structure of the master program in AI**

  - **Seminar [5 ECTS]**: The seminar will allow students to connect with a topic complex of their choice and research and interact with academic information and present their findings to a relevant audience.

  - **Minor [15 ECTS]**: Students will choose 15 ECTS credits worth of courses that have a connection to artificial intelligence (but are not already included in the electives). The goal is to work on connecting the gained knowledge to a broad array of subjects. They may form the basis for applications in future employment.

  - **Master's Thesis [30 ECTS]**: The master's thesis can be registered at the registrar's office as soon as the student has successfully collected 70 ECTS credits. It has to be completed within six months after the registration. An oral presentation of the results of about 30 minutes as well as a consecutive discussion are obligatory.

Program Structure

Module	ECTS	Workload			
		Semester 1	Semester 2	Semester 3	Semester 4
Elective Modules	50	20	20	10	
Project I	10		10		
Project II	10			10	
Main Seminar	5			5	
Minor	15	10		5	
Master's Thesis	30				30
	120	**30**	**30**	**30**	**30**

The standard progression through the master programme for full-time participants with 30 ECTS per semester.

https://www.ai.study.fau.eu/

Program Structure

Module Catalogue Master AI

Vorlesungen im Wahlpflichtbereich

Sym = Symbolic AI
ML   = Machine Learning / Subsymbolic AI
SA   = AI Systems and Applications

Bezeichnung	Säule	Lehrende	SWS	ECTS	WiSe	SoSe	Sprache
Modellierung, Optimierung und Simulation von Energiesystemen	SA	Prof. Dr. Pruckner	2+2	5	x		D
Multimedia Security	ML	Dr. Riess	2+2	5	x		E
Middleware - Cloud Computing	SA	Dr. Distler, Michael Eischer, Laura Lawniczak	4	5	x		D
Deep Learning	ML	Prof. Dr. Andreas Maier	2+2	5	x		E
Pattern Recognition	ML	Prof. Dr. Andreas Maier	3+1+2	5	x		E
Medical Image Processing f. Diagnostic/Intervent. Applications	ML	Julian Hoßbach, Prof. Dr. Maier, Tristian Gottschalk	4+4	10	x		E
Biomedizinische Signalanalyse	ML	Dr. Felix Kluge, Prof. Eskofier	2+2	5	x		E
Maschinelles Lernen für Zeitreihen	ML	Prof. Eskofier, Prof. Oliver Amft, Dr. Ch. Mutschler	2+2+2	7.5	x		E
Vernetzte Mobilität und autonomes Fahren	Sym	Dr. Anatoli Djanatliev	2+2	5	x		D oder E
Ontologien im Semantic Web	Sym	Prof. Dr. Schröder	4	7.5	x		D und E
Künstliche Intelligenz I	Sym	Prof. Dr. Kohlhase	4+2	7.5	x		E
Logik-Basierte Sprachverarbeitung	Sym	Prof. Dr. Kohlhase, PD Dr. Florian Rabe	4	5	x		D oder E
Informationsvisualisierung	SA	Dr. Roberto Grosso	2+2	5	x		D
Eingebettete Systeme	SA	Prof. Dr. Teich	2+2	5	x		D/E
Verifikation digitaler Systeme	Sym	Prof. Dr. Oliver Keszöcze	2+2	5	x		D
Formale Methoden der Softwareentwicklung	Sym	PD Dr. Tadeusz Litak, Paul Wild	4	7.5	x		D oder E
Verteilte Systeme (+erweiterte Übungen 4 SWS - Michael Eischer)	SA	Dr. Jürgen Kleinöder, Dr. Tobias Distler	2+2	5		x	D
Computer Vision	ML	Ph Ronak Kosti, Dr. Vincent Christlein	2+2	5		x	E
Pattern Analysis	ML	Dr. Christian Riess	3+1	5		x	E
Human Computer Interaction	SA	Prof. Dr. Eskofier	3+1	5		x	E
Künstliche Intelligenz II	ML	Prof. Dr. Kohlhase	4+2	7.5		x	E
Wissensrepräsentation und -verarbeitung	Sym	PD Dr. Rabe/Prof. Dr. Kohlhase	4+2	7.5		x	D und E
Visual Computing in Medicine 2	ML	PD Dr. Wittenberg, PD Dr. Hastreiter	2+2	5	x	x	E
Approximate Computing	SA	Prof. Dr. Keszöcze, Prof. Dr. Teich	2+2	5		x	E

Page 1

Please note: An updated version of the catalogue will be published every semester!

https://www.ai.study.fau.eu/

Keep in mind – some courses might be offered in German and/or English!

Types of Courses

- V/L: Vorlesung/lecture – generally no registration, attendance not mandatory

- Ü/E: Übung/Tutorium; exercise class/tutorial – usually start in the 2nd week, further details in the 1st lecture, attendance usually not mandatory

- P: Praktikum/Practical course (lab course) – attendance mandatory, early registration (see UnivIS)

- S: Seminar – attendance mandatory, early registration (see UnivIS)

Types of exams/course achievement

- **Prüfungsleistung (PL)/Graded course achievement (gCA)**

  - schriftlich [written]

  - mündlich [oral]

  - Seminar (presentation and paper)

- **Studienleistung (SL)/Ungraded course achievement (uCA)**

  - e.g. exercise classes or practical courses

  - Hochschulpraktikum/academic laboratory

  - Forschungspraktikum/research laboratory

M.Sc. Artificial Intelligence

General Information

What is "ECTS"?

- ***European Credit Transfer and Accumulation System***
  Student workload required for the learning outcomes of a program

  - ➢ 30 credits: recommended workload per semester

  - ➢ 1 credit: ≈ 25-30 working hours (attendance-based learning + self study!)

- You will find information on ECTS in the module catalogs, in the online information system UnivIS, on your Master's certificate/Transcript of Records

Semesters & Exams

- Regular duration of studies: 4 semesters/two years
  (can be extended to 5 by re-registering + paying the fee)

- Semester: lecture period (14/15 weeks) + lecture-free period (≈12 weeks)

- Two exam periods: first 2 weeks and last 3 weeks
  of the lecture-free period ("holidays")

- Failing an exam: **2nd + 3rd chance** in the **following** two semesters (**mandatory** registration)
  – **exception: conditional subjects/"Auflagen" (max. 2 chances, i.e. 1 year!)**

- You can/must only take exams if you **register** for them.

- **Withdrawal** from registered exams: until 3 working days (Mon – Fri) before the exam
  without a reason – or later in case of illness/severe reasons (medical/other certificate)

Semesters & Exams

Summer semester 2021 (April 1, 2021 – Sept. 30, 2021):

Lecture Period: **April 12, 2021 – July 16, 2021**

Exam Registration: **May 15, 2021 – May 30, 2021, 12:00 (preliminary)**

Re-Registration for WS 19/20:   Beginning of **July, 2021**

Semester break (lecture-free):   **July 17, 2021 – Oct. 15, 2021**

Exams: **July 19 – July 31 and Sept. 27 – Oct. 15, 2021**

www.fau.eu/study/current-students/semester-dates/

Conditional Subjects/"Auflagen"

- **Must be passed within one year
  (deadline: March 31, 2022).**
  Otherwise, they will prevent successful re-registration for the 3rd semester. **No exceptions!**

- **After successful completion of conditional subjects:**
  Actively inform Mrs. Barthelmann (Examinations Office)!

- **Examination results of the 2nd semester might be published late.**
  If this is the case, contact your lecturer to get the results faster.

Foreign Language Training

Sprachenzentrum (Language Center), Bismarckstraße 1; www.sz.fau.de

- Courses during the lecture period are **free of cost.**
- Intensive courses (with a fee) during the semester break
- **Registration** is required for all courses.
- Registration for **German courses**: online (+ in person; **open as of now); highly recommended for internships & future job!**
- Recommended languages to prepare for studying abroad:

    e.g. English, Spanish, Portuguese

Many of you will want to stay in Germany …

IdM portal: www.idm.fau.de
Manage your personal data!

An IdM login is required for nearly all personalized online services at FAU…

- Activate your **IdM account** with the activation password mailed to you!

- Upload a photo to generate your student ID card –
  it will be sent to your <u>semester address!</u>

- Problems: service counter/"Service-Theke" RRZE (Computation Center): next to blue computer science tower (Martensstraße 1), 1st floor

- **All important information regarding your studies will be sent to your FAU e-mail address!**

Mein Campus: Manage Your Exams!

Login: https://www.campus.fau.de

- ➢ "Single Sign-On"

- **Prüfungen** (*Exams)*
  - ➢ Exam registration
    (when active – registration: May 15 – May 30, 2021)
  - ➢ Withdrawal from exams: **three working days** before the exam date (Mon–Fri)
  - ➢ Overview of registered exams
  - ➢ Overview of grades and acquired ECTS credits

StudOn: Our E-learning platform

Login: https://www.studon.fau.de

- Often used for courses that require registration (seminars, practical courses)
- Platform for sharing course materials

M.Sc. Artificial Intelligence

What's next?

What's next?

1. **Compile your class schedule**
   → UnivIS

   Introduction: https://www.medical-engineering.study.fau.eu/files/2018/09/univis-stundenplan_engl_2-converted.pdf
   https://slot.cs.fau.de/

2. **Register for courses** – **only if needed (information in UnivIS):**
   usually via StudOn (see registration link on the respective lecture page in UnivIS)
   If registration is not required, simply go the first meeting.

3. **Register for exams** → MeinCampus (**May 15 – May 30, 2021**)

What's next?

4. **Re-register for WS 2021/22**
   → bank transfer – details via e-mail (t.b.a.)

4. **Study & pass exams** → study groups, time management, practice with old exams from

4. **Actively report on your conditional subjects**
   → Examinations Office (Mrs. Barthelmann)

4. **Get your semester ticket: https://shop.vgn.de/index.php/product/518/show**

M.Sc. Artificial Intelligence

Q&A

It's time for your questions!!!