




AI AUSTRIA
AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE

Bundesländer Dialog

 Dietmar Millinger

Vienna, October 9th 2018

What's so special about AI?

Economic Growth



2x -3x

Augmentation



New business models

Productivity



+10% to +30%

Nobody doubts the potential of AI



Governments consider AI a national interest



We want to ensure that Austria is at the forefront of the **Applied AI** movement

Nobody doubts the potential of AI

"We will move from mobile first to an AI first world"
Sundar Pichai
Google CEO

"It's hard to overstate how big of an impact AI is going to have over the next 20 years"
Jeff Bezos
Amazon CEO

"We have to be in a position to lead France and Europe, and build an intelligent ecosystem"

"AI is closer to being able to do more powerful things than most people expect."
Mark Zuckerberg
Facebook CEO

"AI is the future, not only for Russian, but for all of humankind."
Vladimir Putin
President of Russia

AI is considered a national interest



Opportunities for Austria

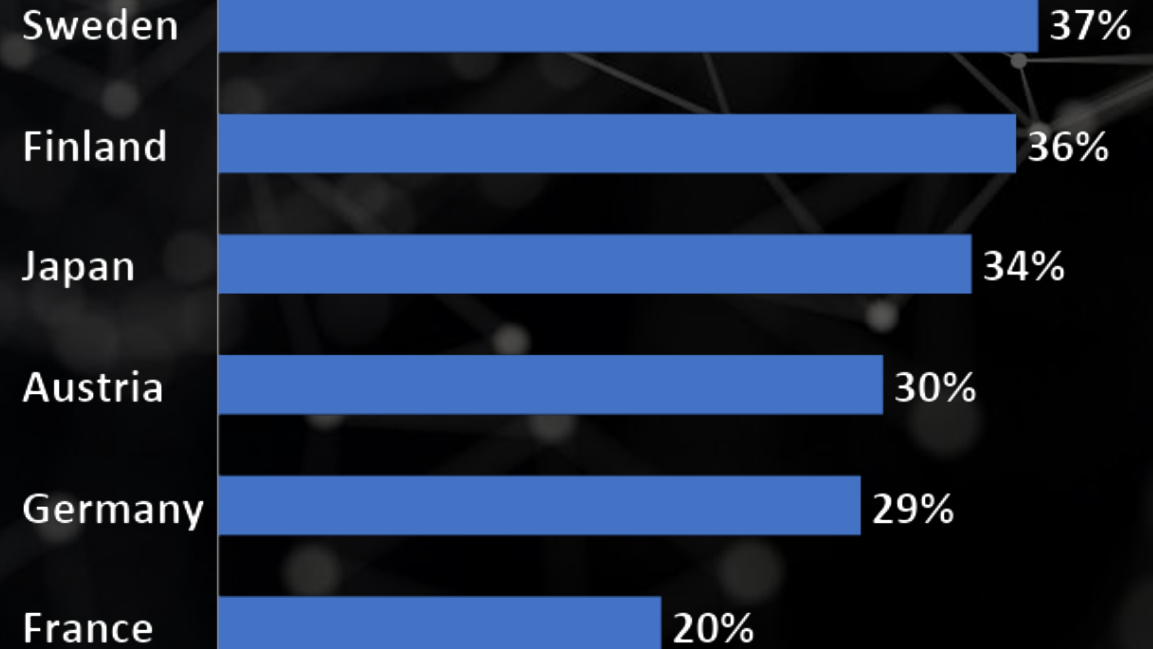
McKinsey&Company

“Highly developed economies with a high GDP per capita and challenges such as a quickly aging population will increasingly need to rely on automation based on AI to achieve its GDP targets.”

Gartner®

“By 2021 AI augmentation will generate \$2.9 trillion in business value and recover 6.2 billion hours of worker productivity.”

accenture



Challenges for Austria

- missing skilled workforce
- many small to mid-sized companies
- missing networks
- focus of research for industry specific topics
- Austria does not know that it is an Applied AI champion



AI AUSTRIA

AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE

TALENT

TECHNOLOGY

NETWORKING

COOPERATION

COMMUNITY

EDUCATION

GRANTS

Initial and ongoing supporters



AI AUSTRIA
AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE



Hermann Hauser
Founder I.E.C.T. – Hermann Hauser
CEO Amadeus Capital Partners



Robert Trappl
Head of the Austrian Research Institute
for Artificial Intelligence (OFAI)



Alois Saria
Neuroscientist, Leader of the
Education Program in the Human
Brain Project (HBP) at Medical
University Innsbruck

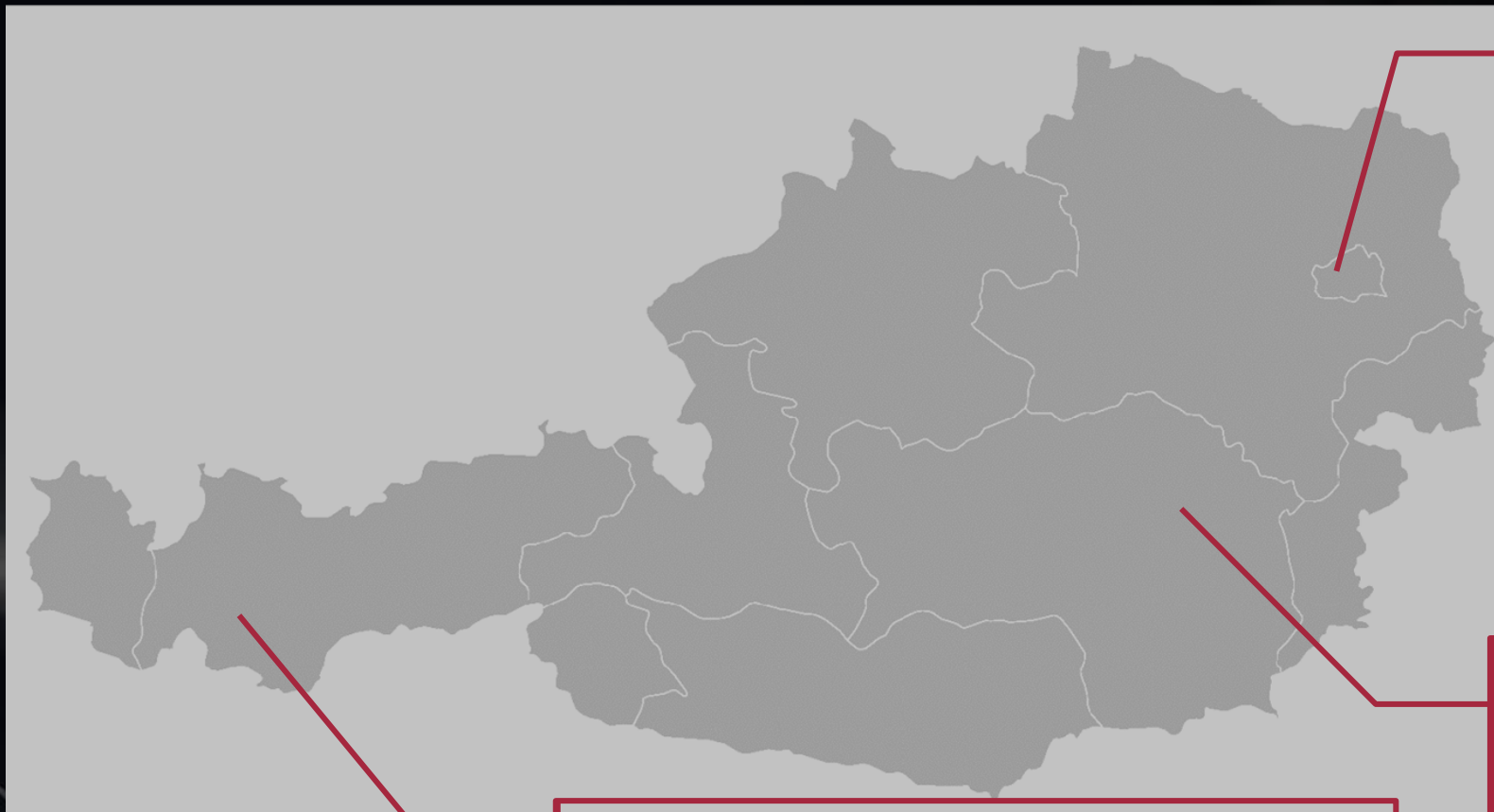


Sepp Hochreiter
Head of the AI Lab at Johannes
Kepler University Linz,
AI Pioneer

1st Projects have already started



AI AUSTRIA
AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE



- City of Vienna – AI/ML Hub
- Applied AI Meetup Vienna
- FH Technikum Wien – Datascience curriculum
- BMDW – Austrian AI Strategy
- BMVIT – Austrian AI Strategy

- Uni Innsbruck – AI Lab und Stiftungsprofessur
- FH Vorarlberg – AI Austria Meetup
- FH Innsbruck – Datascience Curriculum

- AI Austria – Styria chapter in cooperation with Know-Center Graz, AVL and Magna
- Know-Center & TU Graz as cooperation partner for „AI Austria Report“
- TU Graz – Machine learning curriculum & didactic approach

Members & Cooperation Partners



AI AUSTRIA
AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE

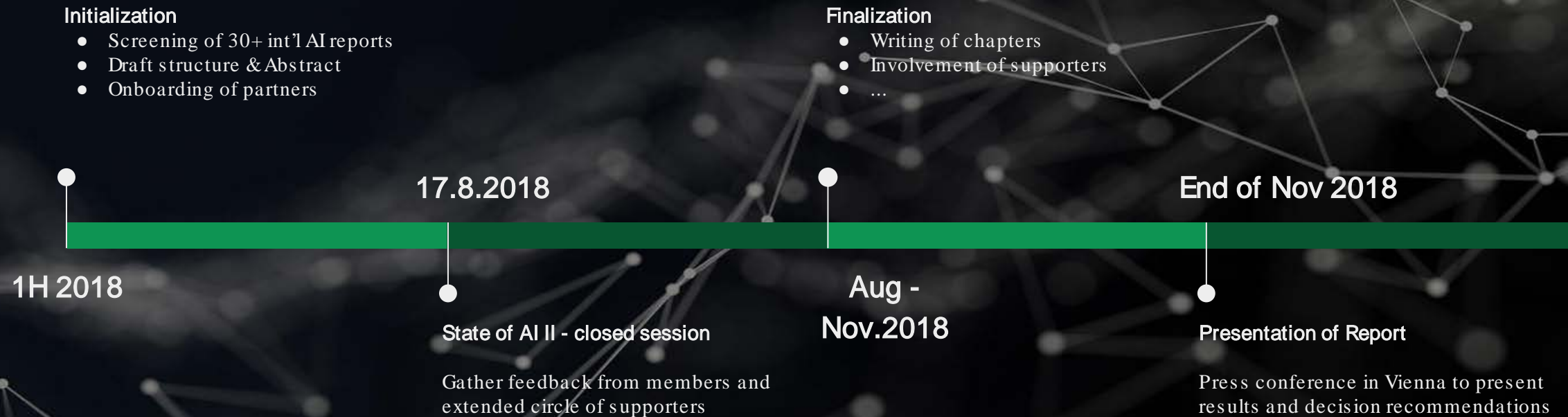
OFAI
Ernst & Young
Andritz
Kapsch
Semantic Web Company
VRVis
FH Technikum Wien
IST Austria
Onlim
contextflow

FH Vorarlberg
CeMM Research Center
AWO
Stadt Wien
Junge Wirtschaft
Wirtschaftsagentur
FOTEC

AI Austria Report

- Position paper on how Austria should approach AI
- Holistic view covering all aspects of society, economy, research and education
- Inclusive writing process with over 30 participants such as universities, corporations, organizations and independent experts
- Fully independent!

Report Timeline



AI Curriculum Community

Vision

Set-up a community of educators from universities, research, educational institutions and experts to foster the exchange of ideas and best practice

Goals

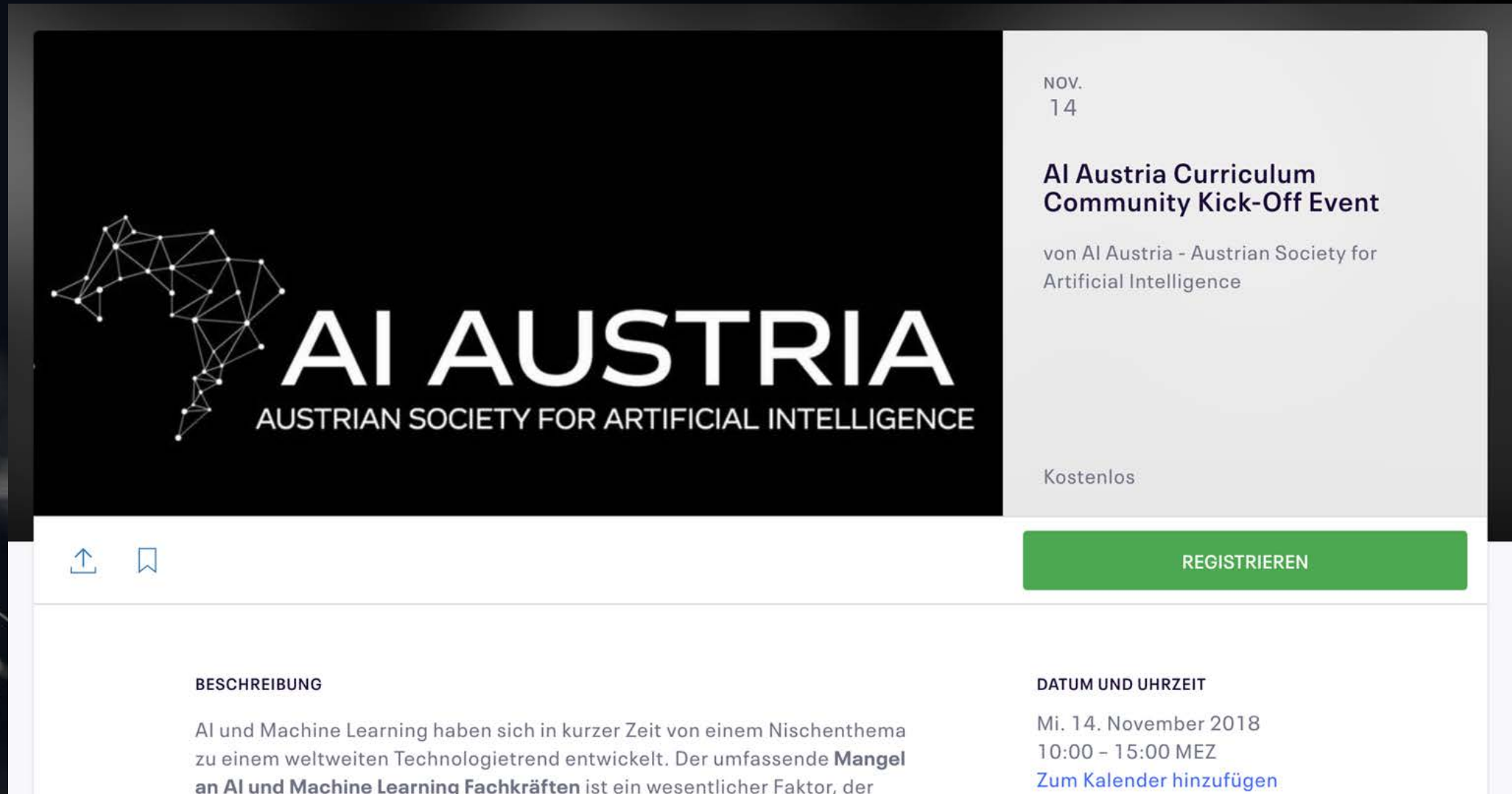
Recommendation on educational deepdive topics and targets

Collection of didactic tools for teaching

Participant list for kick-off event

- OFAI - Austrian Institute for Artificial Intelligence
- Know-Center Graz
- FH St.Pölten
- TU Graz
- TU Wien
- Universität Salzburg
- FH Technikum Wien
- HTL Spengergasse
- New Coding School
- IBM
- Tentative: AIT, Andritz, IST, FH Hagenberg

Curriculum Community - Kick-off Event



The event card features a dark header with the AI Austria logo and name. The main content area is white and contains the event title, date, and a green registration button. The description section is partially visible at the bottom.

AI AUSTRIA
AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE

NOV.
14

**AI Austria Curriculum
Community Kick-Off Event**

von AI Austria - Austrian Society for
Artificial Intelligence

Kostenlos

[↑](#) [🔖](#)

REGISTRIEREN

BESCHREIBUNG

AI und Machine Learning haben sich in kurzer Zeit von einem Nischenthema zu einem weltweiten Technologietrend entwickelt. Der umfassende **Mangel an AI und Machine Learning Fachkräften** ist ein wesentlicher Faktor, der

DATUM UND UHRZEIT

Mi. 14. November 2018
10:00 - 15:00 MEZ
[Zum Kalender hinzufügen](#)

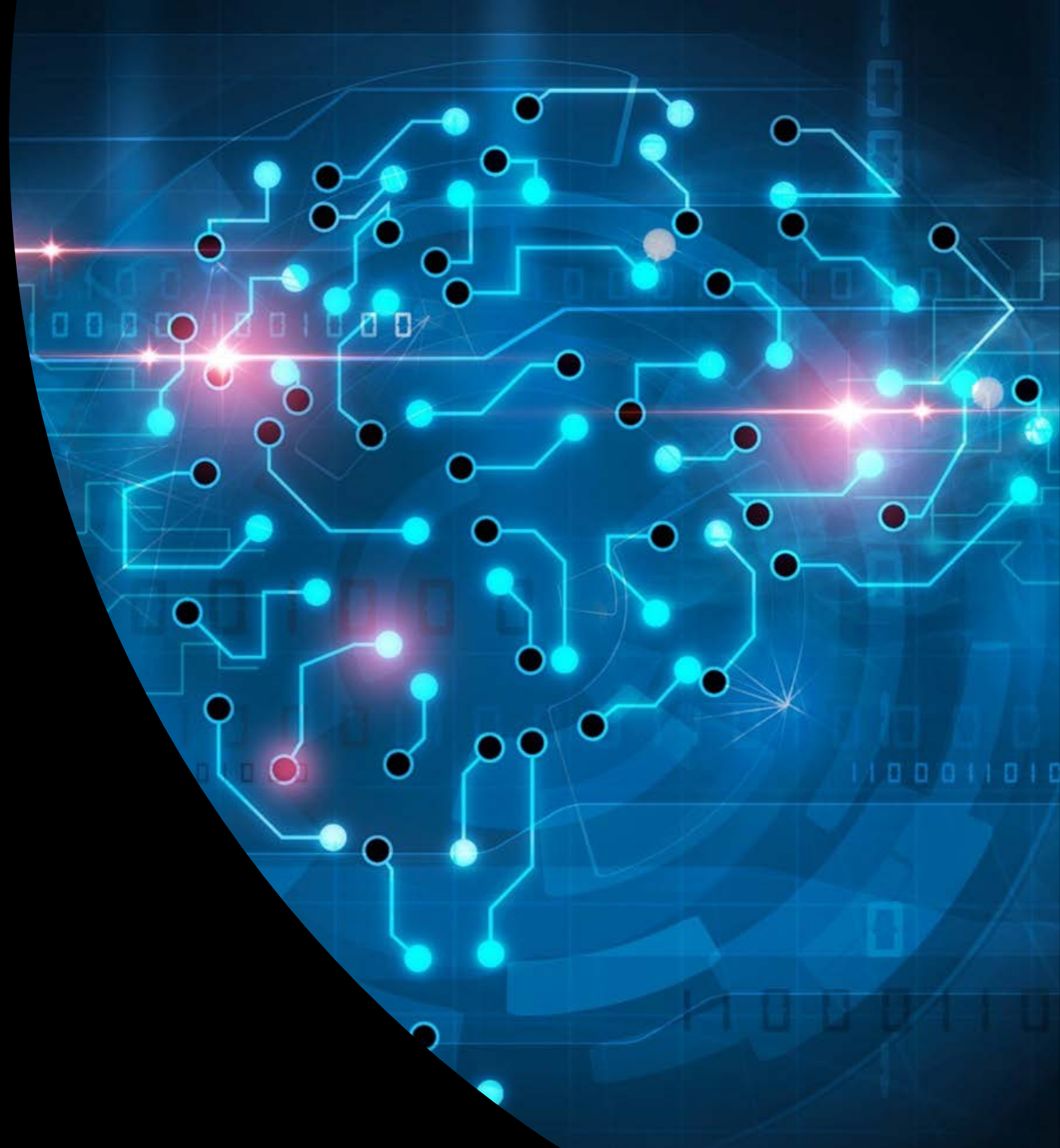


AI AUSTRIA
AUSTRIAN SOCIETY FOR ARTIFICIAL INTELLIGENCE

Interested? Join us under
www.aiaustria.com

Contact

office@aiaustria.com



Die Österreichische Gesellschaft für Artificial Intelligence (ÖGAI)

Ass.Prof. Dr. Ernst Buchberger

Inst. f. Artificial Intelligence & Dec. Support (AID), CeMSIIS

ernst.buchberger@meduniwien.ac.at

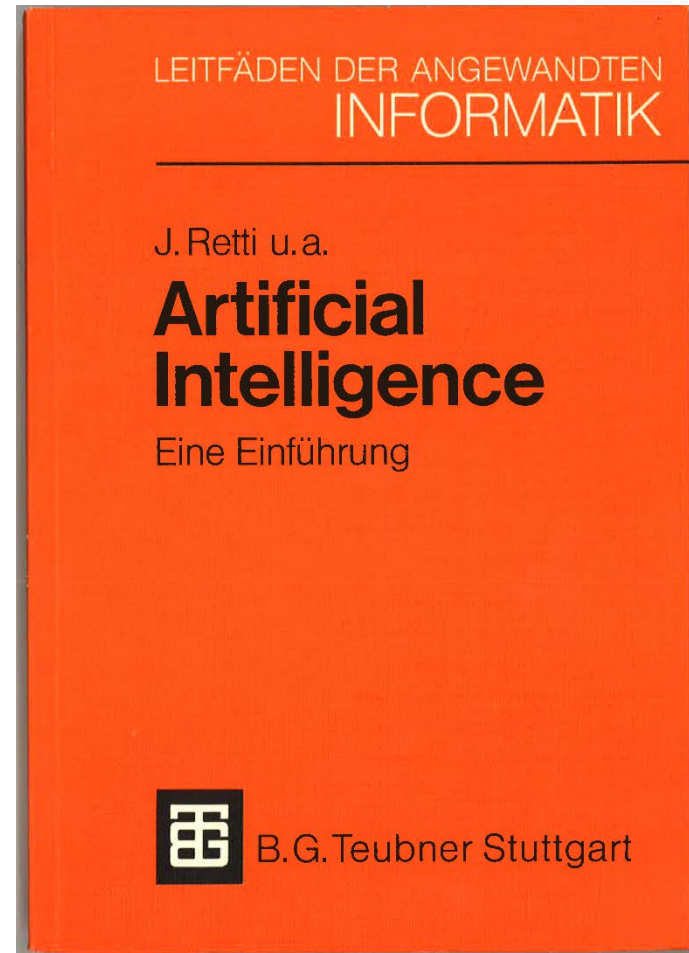
BMBWF: Bundesländerdialog, 9.Oktober 2018

ÖGAI: Entstehung und Zielsetzung

- Gegründet 1981, Gründungspräsident Werner Horn
- gemeinnützig, ehrenamtliche Mitarbeit
- Gründungsmitglieder Wissenschaftler der Universität Wien (heute Med. Univ. Wien), mittlerweile Aktivitäten in mehreren Bundesländern (siehe unten)
- Zweck des Vereins (auszugsweise):
 - Erforschung der Grundlagen und Anwendungen der AI
 - Förderung von Forschung und Ausbildung in AI
 - Verbreitung von Ergebnissen der AI
 - Koordinierung von Aktivitäten auf dem Gebiet der AI
 - Vertretung Österreichs im Bereich der AI in internationalen Organisationen
- 1982 Gründungsmitglied des European Coordinating Committee for Artificial Intelligence (ECCAI), heute European Association for Artificial Intelligence (EurAI) – Europäische Dachgesellschaft (Werner Horn von 2004 – 2008 Präsident der EurAI)

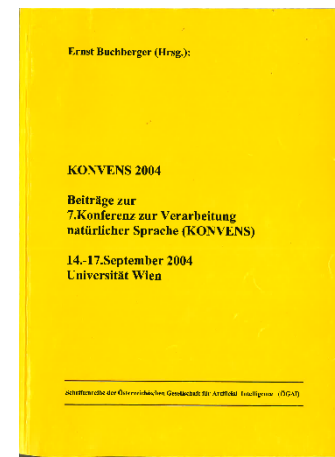
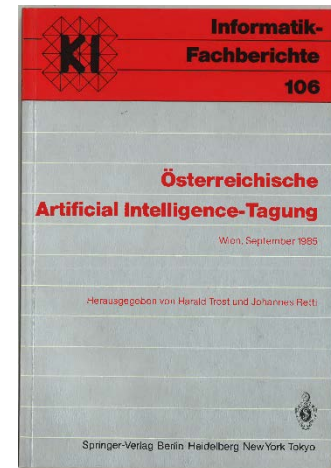
Deutschsprachiges AI-Lehrbuch

- erste Auflage 1984,
zweite Auflage 1986
- AutorInnen:
Johannes Retti
Wolfgang Bibel
Bruno Buchberger
Ernst Buchberger
Werner Horn
Alfred Kobsa
Ingeborg Steinacker
Robert Trappl
Harald Trost



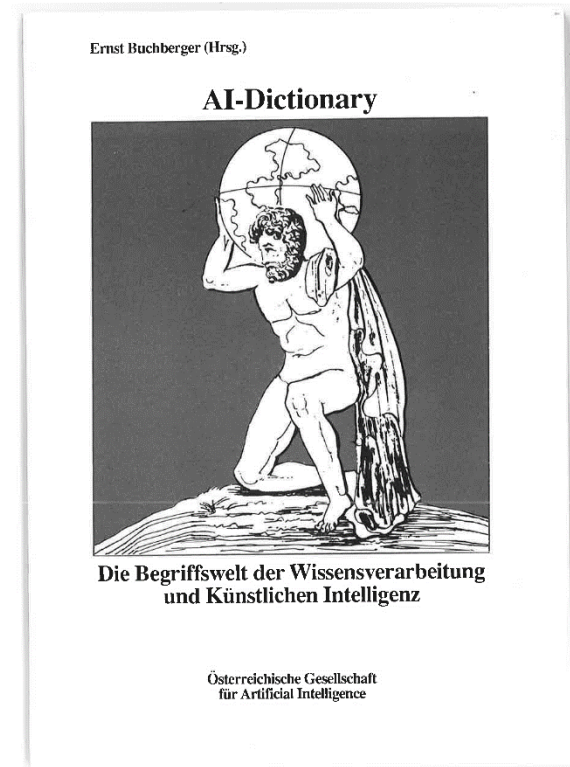
Konferenzen

- Österreichische Artificial Intelligence Tagung
erste 1985, weitere in den Jahren
1986, 1987, 1988, 1989, 1990, 1991
- Konvens (Konferenz zur Verarbeitung natürlicher Sprache)
seit 1992
in Wien: 1994 – 2004 – 2012 - 2018



Schriftenreihe der ÖGAI

- Band 1: (1987) AI-Dictionary
(Buchberger E., ed.)
- Band 2: (1989) Expertensysteme im
Bankbereich (Kuntner J., ed.)
- Band 3: (1991) Konnektionismus:
Beiträge aus Theorie und Praxis
(Ziegeler H.G., ed.)
- Band 4: Vision Milestones 95
(Pinz A., Burger W., eds.)
- Band 5: Konvens 2004 (Buchberger E., ed.)
- Band 6: Konvens 2012 (Jancsary J., ed.)



Weitere Aktivitäten

- ÖGAI-Journal: vierteljährlich, 1981 – 2009
- Veranstaltungskalender (bis 2011)
- Nominierung von EurAI-Fellows
(bisherige österreichische Fellows:
Thomas Eiter, Georg Gottlob, Werner Horn, Gerhard Widmer)
- Nachwuchsförderung: ÖGAI-Preis
- Reisekostenzuschuss
- Verschiedene EurAI-Benefits
- Beispiele für Mitgliederaktivitäten (auszugsweise)

Klagenfurt: Intelligent Systems and Business Informatics

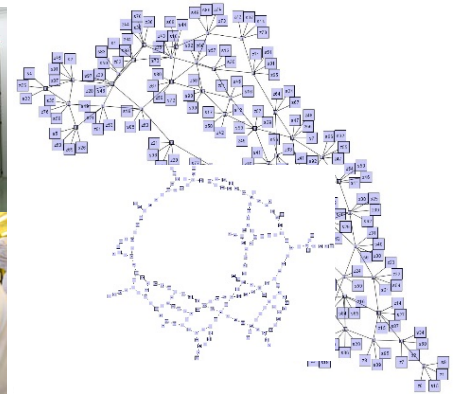
Prof. Dr. Gerhard Friedrich
gerhard.friedrich@aau.at



**Assoc. Prof. Dr.
Konstantin Schekotihin**
konstantin.schekotihin@aau.at



**Assoc. Prof. Dr.
Erich Teppan**
erich.teppan@aau.at



Key research areas

- Knowledge-based planning of products and processes
- Knowledge acquisition and maintenance
- Logic-based knowledge representation and problem solving
- Recommender systems

Selected projects

- HINT – Heuristic intelligence
- Productive 4.0: scheduling of large scale production planning instances
- Path planning of multiple robots
- Interactive distributed debugging of large scale ontologies

Graz: Institute for Software Technology

SE and AI group: Prof. Dr. Franz Wotawa

wotawa@ist.tugraz.at

ASE group: Prof. Dr. Alexander Felfernig

alexander.felfernig@ist.tugraz.at

Autonomous robotics group:

Assoc. Prof. Dr. Gerald Steinbauer

gstein@ist.tugraz.at



Key research areas

- Model-based & qualitative reasoning
- Verification & validation of AI software & systems
- Self-adaptive & autonomous systems
- Knowledge-based configuration
- Recommender systems
- Mobile and autonomous robotics
- Self-aware systems

Selected projects

- AutoDrive – Fail-operational systems for autonomous driving (Ecsel JU, FFG)
- AMOR – Applied Model-Based Reasoning (FFG)
- OPENREQ – Intelligent Recommendation Decision Technologies for Community-Driven Requirements Engineering (EU)
- ABRIAR – Belief Repair for Intelligent Autonomous Robots (FWF)
- RoboCar – autonomous driving technology evaluation based on a highly flexible vehicle platform (FFG)

Linz: Institut für Computational Perception

Univ.-Prof. Dr. Gerhard Widmer (an der JKU seit 1. 10. 2004)

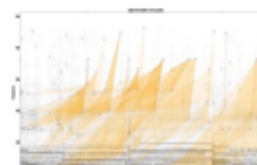
Professor für Informatik, zugehörig dem JKU Fachbereich Informatik
Vorstand Institut für Computational Perception
Leiter einer Forschungsgruppe am LIT AI Lab, JKU Linz
Abteilungsleiter am Österr. Forschungsinstitut für AI (OFAI), Wien

Forschungsschwerpunkte

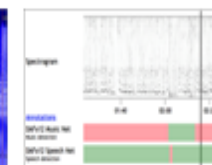
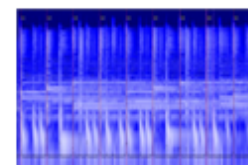
- Artificial Intelligence
- Machine Learning
- Computational (Music) Perception
- Music Information Retrieval (MIR)
- Computational Musicology



Live Music Tracking

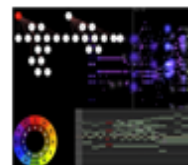
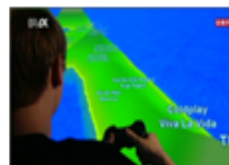


Music Identification, Segmentation, Structure Detection



Institut für Computational Perception

- ca 20 MitarbeiterInnen
- ca 30 Publikationen p.a.
- ca 500 K€ Drittmittel p.a.
- enge Kooperation mit OFAI, Wien



Music Interfaces



Artistic Applications

Projekte (Beispiele)

- PHENICX (EU FP7, ICT 2013)
- Giant Steps (EU FP7, ICT 2013)
- Con Espressione (ERC, 2015)
- Computational Music Performance Research (FWF/BMWF „Translational Research“ 2010)
- Music Retrieval Beyond Simple Audio Similarity (FWF, 2008)

Awards (Beispiele): START-Preis 1998; Wittgenstein-Preis 2009; ERC Advanced Grant 2015

Akad-Partner (Beispiele): Queen Mary, Univ. London; Universitat Pompeu Fabra, Barcelona; Audiolabs Erlangen (Fraunhofer IIS & Univ. Erlangen-Nürnberg)

Indust-Partner (Beispiele): Bang & Olufsen, Dänemark; Royal Concertgebouw Orchestra Amsterdam; SCCH, Hagenberg; voeastalpine; LCM

Rollen (Beispiele): Advisory Board, AAAI Press; Beirat „Internationales Forschungszentrum Kulturwissenschaften“, Wien

Wien: Institut für Artificial Intelligence and Decision Support, CeMSIIS, MedUni Wien

- Leiter: ao. Univ.-Prof. Dr. Werner Horn (bis 30.9.2018)
werner.horn@meduniwien.ac.at
ao. Univ.-Prof. Dr. Georg Dorffner (seit 1.10.2018)
georg.dorffner@meduniwien.ac.at
- Schwerpunkte:
 - Machine Learning in Medicine
 - Natural Language Processing
 - Knowledge-Based Systems
- Focus area:
 - Data Science for Personalized Medicine (DS4PM)

Vielen Dank
für Ihre Aufmerksamkeit!

Fragen / Kommentare ?

www.oegai.at