JOHANNES MARIO MEISSNER

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EDUCATION

University of Cantabria, Santander *2015 - 2019*
Bachelor of Computer Science and Engineering, 2nd in class. **GPA: 9.22 / 10**
Specialization in Computation and Machine Learning.
Exchange program at Munich University of Applied Sciences, Germany, 2017/2018.

PUBLICATIONS

Computer-based Assessment of Traditional Paper-based Exams [ongoing]
Target journal: *Elsevier Computers & Education*
An exploration of the usage of CRNN models to perform Optical Character Recognition of hand-written content in students' exams to obtain a textual representation for evaluation. Based on my Bachelor's thesis.

Automatic Detection of Handwritten Turing Machines for Assisted Evaluation [thesis]
Bachelor's Thesis. Defended at Universidad de Cantabria in July 2019.
A thorough review of Machine Learning and Deep Learning concepts, followed by the application of a convolutional and recurrent neural network model to transcribe handwritten Turing machine models.

Present and Future of Educational Data Mining: A Review [published]
Meissner, Johannes; García, Diego; de la Vega, Alfonso; Villalón, Ruth *2019*
International Conference on Education, Technology, Innovation and Development
Summary of the techniques and algorithms used in Educational Data Mining with examples of the problems that they can solve and discussion on the expected future of the discipline. Work supported by a Research Scholarship at University of Cantabria.

WORK / RESEARCH EXPERIENCE

NTT Media Intelligence Laboratories January 2020 - August 2020
Research Internship *Kanagawa, Japan*

- Lead the group's efforts on ASR output text postprocessing. Applied RNN and Transformer architectures to tasks such as punctuation insertion and error correction.
- Simplified the training pipeline of NTT's English Voice Recognition systems based on Gaussian Mixture Models.
- Vulcanus in Japan Scholarship by the EU-Japan Centre for Industrial Cooperation.

Research Scholarship at University of Cantabria November 2018 - June 2019
Research Assistant *Santander, Spain*

- Worked on clustering, dropout prediction, grade estimation from student's usage data of educational platforms.
- Published a Text Mining Review paper.
- Built a research tool for working with tabular data extracted from Moodle, using `pandas`: `https://github.com/mariomeissner/moodle-log-parser`.
- Spanih Ministry of Education Scholarship for top students to carry out research in collaboration with university departments.

Siemens November 2017 - June 2018
Working Student *Munich, Germany*

- Assisted with security and product vulnerability monitoring, e.g. software vulnerability advisories tracking.
- Developed python-based in-house monitoring tools to automatically detect and filter important news and security alerts. Involved data pipeline management, web-scraping...

BRL-CAD June 2017 - September 2017
Open Source Contribution *Remote*

- Implemented heterogeneous density support the BRL-CAD 3D modeling software.
- European Space Agency Summer of Code Scholarship (SOCIS).

ACADEMIC ACHIEVEMENTS

- Received the prestigious **La Caixa Fellowship for Postgraduate Studies**. *2020-2021*
- Admitted into the **Vulcanus in Japan** programme, covering a 4-month intensive language course and 10-month research internship in Japan. *2019-2020*
- Obtained the **second highest GPA** in class at graduation, University of Cantabria. *July 2019*
- Received **Funcación Botín Scholarship** for undergraduate studies 3 years in a row. *2016-2019*
- Won the **first prize at the Hack2Progress Santander** Hackathon with a cloud-based public lighting management project to reduce urban power consumption. We used computer vision techniques to detect cars and pedestrians and turn streetlights on and off. *November 2018*

PROJECTS

Dissected Attention Network *2020*
Dived into the code that builds an attention recurrent neural network to understand the underlying concepts and learn how to build one myself, explaining what each part does along the way.
More information: `https://mariomeissner.github.io/dissected-attention/`

Biomedical Image Segmentation with KAF Kernels *2019*
Participated in a university project which involved using U-Net architectures with Kernel Adaptive Filtering methods to segment the vocal chords and glottis of laryngeal imagery.

Encoder-Decoder Model for Conversation Simulation *2018*
Used novel encoder-decoder recurrent neural network architectures to produce replies to text messages, using my own message history as a dataset.
More information: `https://mariomeissner.github.io/chatbot/`

EXTRACURRICULAR / VOLUNTEERING

Mentor for Incoming International Students, U. Cantabria *Summer 2017*
Helped organize events and offered assistance and orientation to students moving in.

SKILLS

Programming
Python (ML / Data Science Stack), Java, Javascript, C, R, Linux, Docker

Languages
Spanish (Native), German (Fluent), English (Fluent, TOEFL 113), Japanese (Advanced, N2), Chinese (Beginner)