FELICIA KÖRNER

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SKILLS

PROGRAMMING
Python • LaTeX
SQL • C++

FRAMEWORKS & TOOLS
TensorFlow • Hugging Face • SpaCy
Scikit-learn • Google Cloud Platform

LANGUAGES
Native: English • German
Conversational: French

EXPERIENCE

FREELANCE CONSULTING
AI/ML Consultant — Oct 2023 - current

- Advising on NLP applications, for example supporting a client building an on-premise RAG QA system over internal documents.

ALANA AI
Research Engineer — July 2022 - Sep 2023

- Developed a virtual assistant as part of the Horizon EU RES-Q+ project. The assistant is capable of basic chit-chat and administering four health-related questionnaires to collect data on stroke recovery.
- My tasks within RES-Q+ included research, implementing production-level applications of research, coordinating between partners in the project, and communicating results.
- Developed a rules-based bot to complement the Alana bot ensemble.

RASA
ML Researcher: NLP and Dialogue — Oct 2020 - May 2022

- Designed and performed experiments to evaluate conversational AI models, techniques included A/B testing, user-simulation, and off-policy evaluation.
- Lead team of three researchers for an internal project focused on algorithmic documentation.
- Contributed many PRs to the open source conversational AI framework, from bug fixes to feature implementation.
- Supported research advocacy and the developer community, appeared on several live office hours.
- Interviewed candidates and onboarded new researchers.
- Organized bi-weekly knowledge sharing sessions across the entire research and engineering team.
- Interfaced with customers, designed a user study plan to surface pain points and inform research directions.

CENTER FOR LANGUAGE AND SPEECH PROCESSING
Independent Research — Sep 2018 - May 2019 & Aug 2019 - Aug 2020

- Topics: filtering noisy parallel corpora (first English <> German, then English <> low-resource languages) to improve machine translation.
- Leveraged language-agnostic methods, multilingual sentence embeddings, dual conditional cross-entropy filtering, and built and evaluated several machine translation and language models.
- Supported organization of the WMT20 Shared Task on Parallel Corpus Filtering.

HUMAN LANGUAGE TECHNOLOGY COE
Winter Hackathon in Applied Language Exploration — Jan 2020

- Explored speech translation techniques, compared end-to-end and cascade models.
- Developed an Amazon MTurk interface for annotation of transcribed text and corresponding audio.

INSTITUTE FOR DATA INTENSIVE ENGINEERING & SCIENCES
Assistant Web Developer — Sep 2019 - March 2020

- Redesigned educational website for the Sloan Digital Sky Survey.
- Improved functionality of form-based queries and visual tools for interacting with the data on the educational site.

FAST 3D
Full Stack Engineer — Jan 2019 - May 2019

- Designed and deployed company website.
- Developed a RESTful API, set up prototype server/client communication over TCP/IP.
- Introduced version control practices for developers.
- Designed and set up MySQL databases for real-time data collection from sensors.

JOHNS HOPKINS COMPUTER SCIENCE DEPARTMENT
Course Assistant (Computer Systems Fundamentals) — Aug 2018 - Dec 2018

- Held weekly office hours and review sessions, designed rubric items, graded programming assignments.

BIG HUGE GAMES
Engineering Intern — May 2018 - Aug 2018

- Restructured server-side logging, reformatted error messages, and introduced unique error codes.
- Developed server-side security for new in-game features, participated in QA sprints for two releases.

HOPKINS EXTREME MATERIALS INSTITUTE
Research Assistant — Jan 2016 - May 2017

- Designed, ran, and evaluated tests to determine CTE (Coefficient of Thermal Expansion) of thin films.
- Performed digital image processing with MATLAB and ImageJ.

SEARSON LAB
Design Team Member — Sep 2015 - May 2016

- Helped develop a prototype of a wearable biosensor for chloride concentration detection in sweat.
- Created an iOS App (Swift) for real-time presentation and collection of data.

THEORETICAL BIOPHYSICS LAB
Research Intern — June 2015 - Aug 2015

- Developed skills to present scientific work and perform wet laboratory work.

EDUCATION

JOHNS HOPKINS UNIVERSITY
M.S.E. Computer Science - Human Language Technology — Aug 2019 - May 2020

GPA: 4.0/4.0

Indoor Track and Field: 1x All American (top eight nationally)

JOHNS HOPKINS UNIVERSITY
B.S. Computer Science — Aug 2015 - Dec 2018

Departmental Honors

Member of Chi Alpha Sigma, National College Athlete Honor Society

Track and Field, Cross Country: 4x All American (top eight, top 40 nationally, respectively), 4x Mid-East Region Runner of the Year, 2x Team National Champion

Team Captain 2017, 2018

PUBLICATIONS

[1] F. Koerner and P. Koehn. Dual conditional cross entropy scores and LASER similarity scores for the WMT20 parallel corpus filtering shared task. In *Proceedings of the Fifth Conference on Machine Translation*, pages 966–971, Online, Nov. 2020. Association for Computational Linguistics.