

# **Haritz Puerto**

ML/NLP PH.D. CANDIDATE

# LANGUAGES

Spanish •••••

English ••••

Korean •••••

French •••••

German •••••

#### **ML STACK**

- PyTorch
- HF's Transformers, PEFT, Datasets, Evaluate
- vLLM
- Neptune.Al/Wandb
- Slurm
- Azure

# RESEARCH STACK

- Grant writing
- Project management
- Seminar organization
- · Public speaking
- Teaching

### SOCIAL

haritzpuerto.github.io





<u>aharitzpuerto</u>

### **WORK EXPERIENCE**

# **DOCTORAL RESEARCHER**

UKP Lab @ TU Darmstadt, Germany Jun 2021 - Today

• Ph.D. research, grant writing, project management, seminar organization, teaching.

#### **RESEARCH INTERN**

Parameter Lab, Germany

Jul 2024 - Feb 2025

• Internship on privacy and RAG.

#### **DATA SCIENTIST**

**Coleridge Initiative, Remote** 

Jan 2021 - May 2021

• Co-organized the Kaggle Competition Show US the Data.

#### **RESEARCH ASSISTANT**

IR&NLP Lab, KAIST, Korea

Sep 2018 - Feb 2021

• Research on question answering, question generation and graph neural networks.

#### SOFTWARE ENGINEER

Claroflex, Spain

Jul 2015 - Jul 2017

• Development of a web-based enterprise resource planning (ERP) using Java EE, Python, and MySQL.

# **EDUCATION**

#### Ph.D in ML & NLP

TU Darmstadt, Germany Jun 2021 - Jan 2026 (expected)

• Ph.D. topic: Reasoning in LLMs.

# M.Sc. in Computer Science

KAIST, South Korea

Sep 2018 - Mar 2021

 Thesis Topic: A Hierarchical SRL Graph Network for Multi-Hop Question Answering.

### **B.Sc.** in Computer Science

University of Malaga, Spain

Sep 2012 - July 2027

- Graduated with Honors.
- Exchange semester at Seoul National University.

#### AWARDS

- Honorable Mention Award in NYU Coleridge Initiative's Rich Context Competition (2019).
- Best Paper Award in the Korea Computer Congress (2019).
- Korean Government Scholarship Program (Korean language program and Master's Degree; 2017).
- European Institute of Innovation and Technology (EIT Digital) Master scholarship (Gracefully declined; 2017).
- Graduation with Honors from the Department of Computer Science at the University of Malaga (2017).
- Exchange Semester scholarship to study at Seoul National University (2014).
- Graduated with Honors from High School (2012).

### **PROJECTS**

### **Athene: Security in LLMs**

Jan 2024 - Today

- Grant proposal writing and project manager.
- Research on LLMs vulnerabilities (e.g.: prompt injection, backdoors, and data leaks).
- Funded from 2024 to 2027 by the National Research Center for Applied Cybersecurity ATHENE.
- Project web: link.

# Microsoft: Accelerating Foundation Models Research

Jan 2024 - June 2024

- Grant manager.
- Azure credits to support our research on large language models.
- Setup of Azure OpenAI service and contact person for the whole lab.
- Publications: (Puerto et. al., 2024).

### **DFG: Software for Question Answering Research**

Jan 2022 - June 2024

- Project manager since June 2022.
- Development of a platform for question-answering research.
- Project web: <u>square.ukp-lab.de</u>.
- Total amount of users: 1K.
- Funded by the German Research Foundation (DFG).
- Publications: (Puerto et al., 2024), (Fang et al., 2023), (Puerto et al., 2023a), (Puerto et al., 2023b), (Sachdeva et al., 2023), (Baumgärtner et al., 2022).

IITP: Exobrain Dec 2018 - Feb 2021

- Modeling multi-hop question answering using graph neural networks.
- Project funded by the Institute for Information & Communications Technology Planning & Evaluation (IITP) of the Korean Government.
- Project web: exobrain.kr.
- Publications: (Kang et al., 2020), (Lim et al., 2020), (Kang et al., 2019), (Puerto et al., 2019).

#### **Rich Context Competition**

Oct 2018 - Feb 2029

- Won the honorable mention award in New York University's Coleridge Initiative Rich Context competition.
- The goal is to develop a machine-learning model that identifies the datasets used in scientific publications. We solved the challenge by modeling it as a question-answering task and presented the project in the competition's workshop at New York University.
- NYU's News Post: Link.

### LECTURES AND TALKS

#### Lectures

- QA Lecture in the course NLP4Web @ TU Darmstadt (WS 22/23, WS 23/24) Instructor: Prof. Iryna Gurevych.
- QA Lecture in the course NLP @ Koç University (SS 23) Instructor: Prof. Gözde Gül Şahin.
- Data Analysis Software Project for Natural Language (WS 22/23) @ TU Darmstadt Co-Instructor with Dr. Yufang Hou.
- QA Lecture in the course Deep Learning for NLP (SS 22/23) Prof. Ivan Habernal.

# **Invited Talks**

- Seminar of the Cyber-Physical Health and Assistive Robotics Technologies group (CHART) @ The University of Nottingham, May 2025
- UKP-SQuARE @ Huawei Search Engine Academic Workshop, November 2022.
- ScaDS.Al Machine Learning Summer School: QA Research, July 2022.
- Hacia Afuera Podcast: Making Al Answer Questions (in Spanish), February 2022.

# **SELECTED PUBLICATIONS**

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\* indicates equal contribution.

• Haritz Puerto, Martin Gubri, Tommaso Green, Seong Joon Oh, Sangdoo Yun. <u>C-SEO</u>
<u>Bench: Does Conversational SEO Work?</u> arxiv 2025

- Tommaso Green, Martin Gubri, **Haritz Puerto**, Seong Joon Oh, Sangdoo Yun. <u>Leaky</u>
  <u>Thoughts: Large Reasoning Models Are Not Private Thinkers</u>, arxiv 2025
- Haritz Puerto, Tilek Chubakov, Xiaodan Zhu, Harish Tayyar Madabushi, Iryna Gurevych. \_
   <u>Fine-Tuning on Diverse Reasoning Chains Drives Within-Inference CoT Refinement in LLMs.</u> ACL 2025
- Haritz Puerto, Martin Gubri, Sangdoo Yun, Seong Joon Oh. <u>Scaling Up Membership</u> <u>Inference: When and How Attacks Succeed on Large Language Models</u>. Findings of NAACL 2024.
- Haritz Puerto, Martin Tutek, Somak Aditya, Xiaodan Zhu, Iryna Gurevych. <u>Code Prompting</u> <u>Elicits Conditional Reasoning Abilities in Text+Code LLMs</u>. EMNLP 2024.
- Haritz Puerto, Gözde Gül Şahin, Iryna Gurevych. <u>MetaQA: Combining Expert Agents for Multi-Skill Question Answering</u>. EACL, 2023.
- Junmo Kang\*, Giwon Hong\*, **Haritz Puerto\***, Sung-Hyon Myaeng. **Regularization of Distinct Strategies for Unsupervised Question Generation**. Findings of EMNLP, 2020.
- Doyeon Lim\*, Haritz Puerto\*, Sung-Hyon Myaeng. <u>Analysis of the Semantic Answer Types to Understand the Limitations of MRQA Models</u>. Journal of KIISE (2020).
- Junmo Kang\*, Haritz Puerto\*, and Sung-Hyon Myaeng. <u>Let Me Know What to Ask:</u> <u>Interrogative-Word-Aware Question Generation</u>. In Proceedings of the 2nd Workshop on Machine Reading for Question Answering, EMNLP 2019.
- Haritz Puerto\*, Doyeon Lim\*, and Sung-Hyon Myaeng. <u>Analysis of Answer Type Application Ability of State-of-the-Art Reading Comprehension Models for Question Answering Task</u>. In Proceedings of the Korea Computer Congress (2019). <u>Best Paper Award</u>.

Full list of publications in <a href="https://www.semanticscholar.org/author/Haritz-Puerto-San-Roman/1389023854">https://www.semanticscholar.org/author/Haritz-Puerto-San-Roman/1389023854</a>