

# Alessandro Suglia

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## Work experience

- June 2023 – **Head of Visual Dialogue, AlanaAI**
- August 2024 I led the team in Alana AI that developed AlanaVLM, a state-of-the-art 7B Multimodal Generative AI model for embodied visual question answering tasks able to outperform Claude 3 and Gemini 1.0 Vision Pro, and that rivals GPT-4V on spatial reasoning questions of the OpenEQA benchmark from Meta AI.
- May 2023 – **Assistant Professor, Heriot-Watt University**
- Now Developed “Introduction to Natural Language Processing”, the first NLP and Generative AI course in Heriot-Watt (co-taught with Ioannis Konstas). Additionally, I am currently supervising 5 PhD students on topics related to Multimodal Generative AI, and Embodied AI. Finally, I was nominated academic liaison by Heriot-Watt University for the Alan Turing Institute and I am the co-lead for the “Generative AI for Robotics” theme at the National Robotarium.
- February 2022 – May 2023 **Tenure-track Research Fellow, Heriot-Watt University**
- I am one of the first hires of the National Robotarium (22.4M research centre), recipient of a prestigious tenure-track position at Heriot-Watt University. I was the faculty advisor for the only non-American team selected as one of the finalists of the Amazon Simbot Challenge 2023, a competition on Embodied Conversational AI.
- July 2021 – **Applied Scientist Intern, Meta AI**
- October 2021 Design, implementation and evaluation of a novel multi-modal Generative AI techniques for video understanding and reasoning trained using Meta’s research cluster. The project was completed in collaboration with Dr. Seungwhan Moon.
- March 2021 – **Applied Scientist Intern, Amazon Alexa AI**
- June 2021 Design, implementation and evaluation of EmBERT, a state-of-the-art Deep Learning architecture for Embodied AI tasks. The project was completed in collaboration with Prof. Gaurav Sukhatme, Dr. Jesse Thomason and Govind Thattai.
- June 2020 – **NLP Software Engineer, AlanaAI**
- Feb. 2021 Design and implementation of knowledge-based and data-driven components for the Alana Conversational AI. I was responsible for the Natural Language Understanding pipeline of the dialogue system as well as semantics-aware components based on ontologies and linked open data.
- Oct. 2019 – **NLP Consultant, The AvantGarde Group Srl**
- Aug. 2020 Design and implementation of a hierarchical text-classification model based on BERT for financial documents written in Italian. The solution guaranteed a boost in terms of classification performance (measured as F1-measure) of 4.9% compared to feature-based machine learning models when evaluated on a real-world dataset.
- March 2018 – **Amazon Socialbot Challenge 2018, Heriot-Watt University**
- Nov. 2018 Design and implementation of several components for the open-domain conversational agent “Alana”, finalist in the Alexa Prize Socialbot Challenge 2018. I was responsible for the main architecture of the socialbot as well as the Natural Language Understanding pipeline and several retrieval-based bots.

## Publications (h-index=10; see [Google Scholar](#) for the full list)

- Suglia, Alessandro, et al. “Visually Grounded Language Learning: a review of language games, datasets, tasks, and models”. *JAIR*. 2024.
- Tai, Yintao, et al. “PIXAR: Auto-Regressive Language Modeling in Pixel Space”. *ACL*. 2024.
- Chiyah-Garcia, Javier, et al. “‘What are you referring to?’Evaluating the Ability of Multimodal Dialogue Models to Process Clarificational Exchanges”. *SIGDIAL*. 2023.
- Pantazopoulos, Georgios, et al. “Multitask Multimodal Prompted Training for Interactive Embodied Task Completion”. *EMNLP*. 2023.

Suglia, Alessandro, et al. "Embodied bert: A transformer model for embodied, language-guided visual task completion". *Novel Ideas in Learning-to-Learn through Interaction Workshop at EMNLP*. 2021.

## Education

- 2018–2022 **PhD in Robotics and Autonomous Systems**, *Edinburgh Centre for Robotics*
- 2017–2018 **MSc in Robotics and Autonomous Systems**, *Edinburgh Centre for Robotics, Full marks with distinction*
- 2014–2017 **MSc in Computer Science**, *Knowledge Engineering and Machine Intelligence, University of Bari, Full marks with distinction*
- 2011–2014 **BSc in Computer Science**, *University of Bari, Full marks with distinction*

## Research fundings

- Feb. 2022 – **Multi-modal Curriculum Learning for Embodied AI**, *Cirrus EPSRC*
- Feb. 2024 I was granted access to the Cirrus EPSRC Tier-2 National HPC facility to work on the project "Multi-modal Curriculum Learning for large-scale Embodied AI". The award will cover GPU costs for an estimate of £201K for the duration of the award.
- Jan. 2022 – **Alexa Simbot Challenge**, *Amazon*
- June. 2023 I was the faculty advisor (PI) of the only non-American team which was finalist in Amazon Simbot Challenge, an international student competition to advance the state-of-the-art in Embodied Conversational AI. To complete this project, I received a research gift of \$250K as well as \$15K credits per month to access AWS resources.

## Academic contributions

- Jan. 2018 – **Paper reviewing**
- Now ACL, COLING, NAACL, EMNLP, EACL, IJCAI, AAAI, NeurIPS, AI\*IA. Area chair at ACL 2023, NAACL 2024, COLING 2024, EMNLP 2024.

## Talks & Invited Lectures

- October 2023 **Panel speaker**, *Workshop on Safe and Robust Machine Learning Heriot-Watt University*
- June 2023 **Multimodal Embodied Models: Enabling Embodied Artificial Agents to Act and Reason Using Multimodal Perception**, *Keynote at the AmbientAI workshop at ICASSP 2023 & the University of Edinburgh*
- August 2022 **Deep Learning for Conversational AI**, *LingTech Summer School*
- March 2021 **Mastering Natural Language by Playing Language Games**, *Samsung AI Toronto Seminar Series*

## Honours

- 2024 **Italy Made Me Award**, *Embassy of Italy London*
- 2024 **Member of European Laboratory for Learning and Intelligent Systems**
- 2023 **Best short paper award**, *Special Interest Group on Discourse and Dialogue*
- 2022 **Shortlisted for Best PhD Thesis Award 2022**, *The Scottish Informatics and Computer Science Alliance*

## Technical Skills

**Programming languages:** [*advanced*] Python, Java; [*basic*] C, C++, Go, Haskell  
**Machine Learning libraries:** Tensorflow, PyTorch, scikit-learn, Huggingface Transformers  
**Cloud computing platforms:** Amazon Web Services, Google Cloud Platform  
**Database Management Systems:** MySQL, MongoDB, DynamoDB, Amazon Neptune