# **Yong Zheng-Xin**

CONTACT INFORMATION personal website: yongzx.github.io
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**EDUCATION** 

**Brown University**, Providence, RI

Ph.D. Student, Computer Science 07/2021 - Present

Advisor: Prof. Stephen H. Bach

Minerva University, San Francisco, CA

B.Sc., Computer Science (Major) and Business (Minor) 09/2017 - 05/2021

Advisor: Prof. Patrick D Watson

Major GPA: 4.0/4, Cumulative GPA: 4.0/4

RELEVANT EMPLOYMENT Brown University, Ph.D. Student

Supervisor: Stephen Bach 07/2021 - Present

Meta AI, Research Scientist Intern

FAIR, Fundamental AI Research 06/2024 - Present

• Responsible AI research for multilingual speech model MMS.

• Supervisor: Jean Maillard

GenAI Trust Team (Research Collaborator)

• Multilingual safety research.

• Point-of-Contact: Jianfeng Chi

# Cohere For AI, Research Collaborator

Aya Responsible Release

05/2023 - 02/2024

- Safety red-teaming for multilingual LLM Aya-101.
- Deliverable: Aya Model (co-first author)
- Supervisors: Sara Hooker & Julia Kreutzer

### **BigScience**, Research Collaborator/Lead

Multilingual Modeling Group

08/2021 - 12/2022

- Led language adaptation research of BLOOM to low-resource languages.
- Helped with data collection for the earliest instruction-following models, namely To (English) and BLOOMZ (multilingual).
- Deliverables: BLOOM+1 (Research Lead), To, PromptSource, BLOOMZ, BLOOM
- Supervisor: Vassilina Nikoulina

## FrameNet Project, Research Intern

Google Summer of Code 2019 and 2020

06/2019 - 12/2020

- Expanded FrameNet through semi-supervised learning and anomaly detection.
- Investigated cross-lingual alignment of semantic frames in FrameNet graph.
- Deliverables: SDEC-AD, Frame Shift Prediction
- Supervisors: Collin F. Baker, Tiago T. Torrent, Oliver Czulo

Awards

Best Paper Award at ACL 2024
Best Paper Award at NeurIPS 2023 Socially Responsible Language Modeling (SoLaR) Workshop
3rd Best App Overall at FirstNet Public Safety Hackathon 2018
Best Use of ESRI at FirstNet Public Safety Hackathon 2018

Grand Prize Winner at #100Hacks Hackathon for Puerto Rico	2017
Grand Prize Winner at NCSV Innovate NUS Hackathon	2017
Open Category Grand Prize at SIA Airlines AppChallenge	2017
Global Finalist at Google Science Fair	2016
Outstanding A-Level Cambridge Learner Award for Perfect Score in Maths	2016

# FEATURED PUBLICATIONS (\* INDICATES CO-FIRST AUTHORSHIP)

# **Multilingual AI Safety**

- [1] Preference Tuning For Toxicity Mitigation Generalizes Across Languages Xiaochen Li\*, **Zheng-Xin Yong**\*, Stephen H. Bach *In submission*.
- [2] Aya Model: An Instruction Finetuned Open-Access Multilingual Language Model Ahmet Üstün\*, Viraat Aryabumi\*, **Zheng-Xin Yong**\*, Wei-Yin Ko\*, Daniel D'souza\*, Gbemileke Onilude, Neel Bhandari, Shivalika Singh, Hui-Lee Ooi, Amr Kayid, Freddie Vargus, Phil Blunsom, Shayne Longpre, Niklas Muennighoff, Marzieh Fadaee, Julia Kreutzer, Sara Hooker

ACL 2024. (Role in project: Multilingual safety red-teaming)

Best Paper Award. Work also featured in The New York Times and other media.

[3] Low-Resource Languages Jailbreak GPT-4
Zheng-Xin Yong, Cristina Menghini, Stephen H. Bach
NeurIPS 2023 Socially Responsible Language Modeling Workshop
Best Paper Award. Work also featured in New Scientist and other media.

# **Low-Resource NLP and Multilingual Synthetic Data Generation**

- [4] LexC-Gen: Generating Data for Extremely Low-Resource Languages with Large Language Models and Bilingual Lexicons **Zheng-Xin Yong**, Cristina Menghini, Stephen H. Bach

  In submission.
- [5] Prompting Multilingual Large Language Models to Generate Code-Mixed Texts: The Case of South East Asian Languages

**Zheng-Xin Yong**, Ruochen Zhang, Jessica Zosa Forde, Skyler Wang, Arjun Subramonian, Holy Lovenia, Samuel Cahyawijaya, Genta Indra Winata, Lintang Sutawika, Jan Christian Blaise Cruz, Yin Lin Tan, Long Phan, Rowena Garcia, Thamar Solorio, Alham Fikri Aji

EMNLP 2023 CALCS Workshop.

Work also featured on WIRED.

[6] BLOOM+1: Adding Language Support to BLOOM for Zero-Shot Prompting **Zheng-Xin Yong**, Hailey Schoelkopf, Niklas Muennighoff, Alham Fikri Aji, David Ifeoluwa Adelani, Khalid Almubarak, M Saiful Bari, Lintang Sutawika, Jungo Kasai, Ahmed Baruwa, Genta Indra Winata, Stella Biderman, Edward Raff, Dragomir Radev, Vassilina Nikoulina *ACL* 2023.

# OTHER PUBLICATIONS

- [7] CVQA: Culturally-diverse Multilingual Visual Question Answering Benchmark David Romero, ..., **Zheng-Xin Yong**, ..., Thamar Solorio, Alham Fikri Aji (75 authors) In submission
- [8] SEACrowd: A Multilingual Multimodal Data Hub and Benchmark Suite for Southeast Asian Languages Holy Lovenia, ..., Zheng-Xin Yong, Samuel Cahyawijaya (61 authors) In submission

- [9] A Safe Harbor for AI Evaluation and Red Teaming Shayne Longpre, ..., Zheng-Xin Yong, ..., Percy Liang, Peter Henderson (23 authors) ICML 2024 Oral (Position Paper).
- [10] Representativeness as a Forgotten Lesson for Multilingual and Code-switched **Data Collection and Preparation** A. Seza Doğruöz, Sunayana Sitaram, Zheng-Xin Yong EMNLP Findings 2023.
- [11] Crosslingual Generalization through Multitask Finetuning Niklas Muennighoff, ..., Zheng-Xin Yong, ..., Edward Raff, Colin Raffel (19 authors) ACL 2023.
- [12] PromptSource: An Integrated Development Environment and Repository for Natural Language Prompts Stephen H. Bach\*, Victor Sanh\*, Zheng-Xin Yong, ..., Alexander M. Rush (27 authors) ACL Demo 2023.
- [13] The Decades Progress on Code-Switching Research in NLP: A Systematic Survey on Trends and Challenges Genta Indra Winata, Alham Fikri Aji, Zheng-Xin Yong, Thamar Solorio ACL Findings 2023.
- [14] BLOOM: A 176B-Parameter Open-Access Multilingual Language Model BigScience Workshop (including **Zheng-Xin Yong** and 300+ authors) Preprint 2023
- [15] Multitask Prompted Training Enables Zero-Shot Task Generalization Victor Sanh\*, ..., **Zheng-Xin Yong**, ..., Alexander M. Rush (41 authors) ICLR 2022 Spotlight.

# SELECTED TALKS

The Alan Turing Institute, London Data Week: Multilingual AI Safety, Jul 2024.

Cohere For AI, C4AI Gatherings: Aya Multilingual Safety, Feb 2024.

Cohere For AI, Aya Grande Finale: Aya Responsible Release, Feb 2024.

Cohere For AI, Closing the Contribution Chapter: Malay Ambassador, Dec 2023.

# MEDIA

SELECTED PRESS & GPT-4 gave advice on planning terrorist attacks when asked in Zulu (New Scientist, 2023)

ChatGPT Is Cutting Non-English Languages Out of the AI Revolution (WIRED, 2023)

### **SERVICES Area Chair:**

EMNLP 2023 (Multilingualism and Linguistic Diversity)

# **Conference/Workshop Reviewer:**

COLM 2024 ARR 2021-Present ACL 2021-2023

# **Outreach and Mentorship Service Programs:**

Deep Learning Indaba Mentorship Service (2022 - 2023) Brown Computer Science exploreCSR (2022) Minerva-Masason Mentoring Program (2019 - 2021)