

# Armando Teles Fortes

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## Education

### Nanyang Technological University

Singapore

Ph.D. in Computer Science and Engineering

Aug 2024 - Present

- Advised by Prof. Xingang Pan, MMLab@NTU, S-Lab for Advanced Intelligence.

### Tsinghua University

Beijing, China

M.Sc. in Computer Science and Technology

Sept 2021 - July 2024

- Advised by Prof. Jun Zhu, TSAIL Group, Institute of Artificial Intelligence.
- GPA: 4.00/4.00, Rank: 1/72.

### Instituto Superior Técnico, University of Lisbon

Lisbon, Portugal

B.Sc. in Computer Science and Engineering

Sept 2018 - July 2021

- Graduated with Academic Excellence and Merit awards.
- GPA: 17/20, ECTS: A.

## Experience

### MMLab@NTU, S-Lab, Nanyang Technological University

Beijing, China

Ph.D. Student Researcher, advised by Prof. Xingang Pan

Aug 2024 - Present

- Controllable generation in diffusion models, including photography-inspired image generation.

### TSAIL Group, Tsinghua University

Beijing, China

Research Assistant, advised by Prof. Jun Zhu

Sept 2022 - July 2024

- Controllable generation in text-to-image diffusion models, including subject-driven generation and instruction-based editing.
- Led collaborative research projects with ShengShu 生数 and HONOR 荣耀 companies.

### SAILING Lab, Carnegie Mellon University

Pittsburgh PA, USA (Remote)

Research Assistant, guided by Prof. Zhiting Hu and Prof. Eric Xing

Sept 2022 - Feb 2023

- Reinforcement learning in the language model prompt space to find task-agnostic reasoning prompts.

### Amazon Web Services

Dublin, Ireland

Software Development Engineer Intern

June 2022 - Sept 2022

- Developed key software components in Amazon RDS using Ruby on Rails.
- Leg the integration of Amazon RDS with Service Quotas from concept to global rollout in a cross-functional team environment, directly enhancing user experience for AWS customers.

## Publications

Armando Fortes, Tianyi Wei, Shangchen Zhou, Xingang Pan. *Bokeh Diffusion: Defocus Blur Control in Text-to-Image Diffusion Models*. arXiv preprint arXiv:2503.08434, under review, 2025.

Leon Witt, Armando Teles Fortes, Kentaroh Toyoda, Wojciech Samek, Dan Li. *Blockchain and Artificial Intelligence: Synergies and Conflicts*. IEEE Conference on Artificial Intelligence (IEEE CAI), BCI Workshop, 2024. **(Best Paper Runner-Up)**

Chendong Xiang\*, Armando Fortes\*, Khang Hui Chua, Hang Su, Jun Zhu. *FeedFace: Efficient Inference-based Face Personalization via Diffusion Models*. International Conference on Learning Representations (ICLR), Tiny Papers, 2024.

\* indicates co-first authors.

## Selected Projects

### Efficient and Reliable Text-to-Image Generation

Guangzhou, China

Guangdong-HK-Macao Intl. Algorithm Case Competition (IACC) (1st out of 599 teams)

July 2023 - Dec 2023

- Introduced an inference-based method designed to augment T2I diffusion models with face-conditioned generation.

## Awesome-Controllable-Generation

Public GitHub Repository (400+ Stars)

Mar 2023 - Present

- Papers and resources on Controllable Generation using Diffusion Models, including DreamBooth, ControlNet, and IP-Adapter.

## Awesome-LLM-Reasoning

Public GitHub Repository (2.8K+ Stars)

Nov 2022 - Present

- Papers and Resources on LLM Reasoning, including Chain-of-Thought, ChatGPT-o1, and DeepSeek-r1.

## Honors and Awards

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|------|---|------------------|
| 2024 | <b>NTU Research Scholarship Award</b> , Nanyang Technological University            | Singapore        |
| 2023 | <b>Winner of International Algorithm Case Competition (IACC)</b> , Pazhou Lab       | Guangzhou, China |
| 2022 | <b>Chinese Government Scholarship (M.Sc.)</b> , Tsinghua University                 | Beijing, China   |
| 2021 | <b>Academic Excellence Award</b> , Instituto Superior Técnico, University of Lisbon | Lisbon, Portugal |
| 2020 | <b>Academic Merit Award</b> , Instituto Superior Técnico, University of Lisbon      | Lisbon, Portugal |

## Certifications

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| 2022 | <b>Deep Learning Specialization (5 courses)</b> , DeepLearning AI      |
| 2019 | <b>Cambridge English C2 Proficiency</b> , Cambridge Assessment English |
| 2018 | <b>Cambridge English C1 Advanced</b> , Cambridge Assessment English    |
| 2017 | <b>Cambridge English B2 First</b> , Cambridge Assessment English       |

## Service

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|---------------------------|---|
| <b>Teaching Assistant</b> | NTU SC1007 Data Structures & Algorithms (2025)    |
| <b>Volunteer</b>          | Programming Instructor at <i>TreeTree2</i> (2022) |

## Skills

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|-------------------------|---|
| <b>Languages</b>        | Portuguese (Native), English (Fluent), Spanish (Proficient), Mandarin Chinese (Basic)               |
| <b>Programming</b>      | Python, Java, Ruby, JavaScript/TypeScript, C/C++, Prolog, Bash/Shell Scripting                      |
| <b>Machine Learning</b> | Pytorch, Transformers, Diffusers, Accelerate, TensorFlow, Keras, Scikit-learn, NumPy, Pandas, WandB |
| <b>Miscellaneous</b>    | AWS, AWS Cloud Development Kit (CDK), SQL, NoSQL (DynamoDB, MongoDB), Hadoop DFS                    |