

Xuelong An

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Education

- 2023 – 2024 📖 **Master of Science** in Artificial Intelligence for Biomedicine and Healthcare.
- Master project: *G0-arrest biomarker prediction from colon whole-slide images through multiple-instance learning*, supervised by Dr. Pan Shi, Dr. Maria Secier and Dr. Petru Manescu
 - UCL Nexus Lab: *Segmentation of blood vessels from 3D images of human kidneys through transfer learning*
 - AI for Biomedicine and Healthcare: *Concept-bottleneck modelling for interpretable melanoma classification*.
 - Applied AI: *Schizophrenia classification from brain anatomical data through Bayesian optimization*.
 - Probabilistic modelling, Bayesian deep learning
- 2019 – 2023 📖 **Master of Arts with Honors – 2:1 Class Division** in Cognitive Science.
- Thesis title: *Charting the Landscape of Neuro-Symbolic Reasoners*, with Dr. Antonio Vergari (Grade: 78%).
 - Machine Learning Practical group project on *Assessing the Robustness of Neuro-Symbolic Modelling in the CLEVR-Hans3 Dataset* (Grade: 76%)
 - Notable courses: Machine Learning and Pattern Recognition, Probabilistic Modelling and Reasoning, Reinforcement Learning
 - STEM Ambassador: tutor at the Sudanese Hayes Community and volunteer at the 2023 Edinburgh Science Festival's MENACE event.
- 2013 – 2019 📖 **American School of Guayaquil**
- "Best Student" award for obtaining highest grade (9.86/10) in the Class of 2019

Personal Projects

- 2023 – ... 📖 **Kaggle competitor**, where I participate in competitions focused on biomedical tasks, learning from a lot of creative problem-solvers in the community, e.g.:
- Ensemble of fine-tuned models for melanoma classification at *ISIC 2024*

Personal Projects (continued)

- 2022 – ... ■ **AI for Latin American Youth**, where I teach programming and AI targeted to the Latin American audience.
- Film videos on programming posted on my YouTube channel *Class Notes*, with transcripts and code found at my GitHub website.
 - Gave a discussion introducing neurosymbolic AI to an AI club from my hometown's ESPOL university.
- 2021 – ... ■ **Junior researcher** undergoing personal projects revolving AI for healthcare:
- Participant of the UCL-FHIR Hackathon where I proposed using a Text-to-SQL dataset to train a NLP model that translates natural language queries to structured syntax to facilitate querying medical databases.
 - Maintaining a personal blog where I publish articles revolving AI, including my review on *Deep Medicine* by Dr. Eric Topol, reflections on the Virtual Neurosymbolic Summer School 2023 organized by IBM research scientist Asim Munawar.
 - Various presentations, where I publish slides, scripts and thoughts I shared during lab meetings.
- 2020 – ... ■ **AI, AGI, and Ai**, which is a work-in-progress where I discuss the consilience of knowledge in AI with biology, how it helps us understand ourselves, AGI and love (pronounced 'ai' in Chinese)
- 2018 – 2019 ■ **Volunteer teacher** at Robert Allan Reed Center for Adults with Unfinished Education at the American School of Guayaquil.
- Taught adults ranging from 18 - 50+ years old every Saturday, teaching mainly in the fields of math

Skills

- Languages ■ Professional proficiency in Spanish, English and fluent in Chinese.
- Programming ■ Python, Unix, R, Java, \LaTeX , Dart, Jekyll, HTML, Haskell
- ML/DL ■ PyTorch Lightning, high-performance computing, probabilistic programming, Bayesian optimization
- Misc. ■ Research, writing, teaching.

Hobbies

- Books ■ Favorite books include *Consilience: The Unity of Knowledge* by Dr. Edward O. Wilson, *The Master Algorithm* by Pedro Domingos, *Deep Medicine* by Dr. Eric Topol, among others
- Activity ■ Rowing, biking, ping-pong, chess