Xinyuan Chen

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Education

- **Imperial College London** — London, UK
  MSc in Advanced Computing; Merit — *Sep. 2019 – Nov. 2020*
  - **Course Units**: Mathematics for Machine Learning, Reinforcement Learning, Deep Learning, Natural Language Processing, Computer Vision, Machine Learning for Imaging

- **The University of Manchester** — Manchester, UK
  BSc (Hons) Computer Science; First Class — *Sep. 2017 – June. 2019*
  - **Course Units**: Algorithms and Imperative Programming, Machine Learning and Optimization, Symbolic AI, Logic and Modelling, Computer Graphics, Computer Vision, Software Engineering, Numerical Analysis, Distributed Computing, Operating System

- **Communication University of China** — Beijing, China
  B.E Information Security; GPA: 89/100 (3.76/4.0) — *Sep. 2015 – June. 2019*
  - **Course Units**: Logic and Computer Design Fundamentals, Data Structure, Reverse Engineering, Mathematics of Information Security, Cryptography, Probability and Mathematical Statistics, Computer Network, Databases

Programming Skills

- **Languages**: Python, C, C++, C#, MATLAB, SQL
- **Tools**: Tensorflow, PyTorch, Keras, OpenCV, Scikit-learn, NLTK

Competition Awards

- **ACM-ICPC Asia East Continent League Final** — Shanghai, China
  Awarded Bronze Medal (Team of three) — *Dec. 2016*

- **ACM-ICPC Asia Regional Contest** — Dalian, China
  Awarded Bronze Medal (Team of three) — *Oct. 2016*

Research Experience

- **Probing on Machine Translation Quality Estimation Models**: Under the guidance of Prof. Lucia Specia, conducted an in-depth evaluation of the state-of-the-art 'TransQuest' model for multilingual machine translation quality estimation as of 2020 . Explored the model's behavior across varied datasets to investigate its universal learning mechanisms for multiple language pairs and assess its capability to genuinely measure translation quality.

Work Experience

- **GeoSystem Research Corporation** Gunpo, South Korea
  Software Engineer (Full-time) *May 2022 – Jun 2023*
  - **Job Description**:
    - Pioneered a project focused on ocean wave analysis using the stereo vision system, undertaking both software and hardware responsibilities:
      - Configured and programmed stereo cameras using C# and C++.
      - Conducted fieldwork for image data collection.
      - Developed a stereo vision system in C++ with the OpenCV library to extract ocean wave features from images.
      - Analyzed wave data further using Python.
    - Collaborated on an auxiliary project using AI models (CNN and LSTM) for ocean wave analysis from labeled laboratory images.
    - Showcased adaptability by successfully navigating an unfamiliar domain.
    - Maintained effective communication in a multicultural environment, quickly gaining professional proficiency in Korean.

- **University of Manchester** Manchester, UK
  Algorithms Course Lab Assistant (Full-time) *June. – Aug. 2018*
  - **Job Description**: Collaborated in the curriculum development for COMP26120: Algorithms and Imperative Programming. Edited and designed a series of lab manuals to guide students through hands-on exercises and experiments. Supplemented the manuals with sample code, ensuring a practical approach to theoretical concepts.

Projects

- **FAQ Chatbot**: Developed an FAQ chatbot using the OpenAI API for Beartown, a popular Korean Minecraft server. With 7,000 daily active players, the chatbot addressed over 100,000 questions, underlining its pivotal role in enhancing the user experience.
- **Multilingual Machine Translation Quality Estimation**: Collaborated in a team to develop a quality estimation model for multilingual machine translations. Utilized BERT and XLM for embeddings and implemented RNN and LSTM models based on PyTorch.
- **Visualising the Changing Trends in Machine Learning Research**: Developed a website to analyze term frequencies from the Journal of Machine Learning Research: Provided a search function for users to query terms and retrieve frequency charts; presented a time series of top mentioned terms with their associated frequency charts; incorporated visualization of an LDA model for topic extraction from the research papers.
- **Social Network Crawler**: Developed a web crawler for Weibo, a prominent Chinese social network, to locally save all text and image posts of a specified user by their ID.
- **Stendhal project**: Collaborated in a team on the Stendhal project, an open-source online game using the Marauroa engine. Addressed bugs, introduced new features, and refactored Java classes for improved client actions. Implemented in JAVA.