

# Zhenning Zhang

LinkedIn: <https://www.linkedin.com/in/zhenning-zhang>

Projects and Demos: <https://zhenningzhang.net>

## Experience

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**Machine Learning Engineer**, AstraZeneca (Gaithersburg, MD) 07/2019-Present

- Transformer-enabled interactive lesion segmentation toolset on 3D images (CT).
- Development of automatic and semi-automatic guided training pipelines.
- Multi-channel image analysis pipeline with graph-based deep neural network.
- Unsupervised 3D medical image analysis tools with patch-based approaches; and embedding clustering and visualization from both convolutional and graph neural networks.
- Built a highly customizable and interactive visualization tool suite for user-orientated embedding interpretation.
- Wrote preprocessing modules and loaders for various types of imaging data, text formats and standards.
- Integration, maintenance and upgrade of multiple internal deep learning repos.

**Software Engineer**, Ann Arbor Algorithms (Ann Arbor, MI) 06/2018-06/2019

- Experience with large volume of data (including medical MRI, CT, mammography and ECG).
- Implemented deep learning docker pipelines: from preprocessing to training to visualizing results.
- Developed a web service framework enabling easy information browsing for a collection of participants (patients), showing their traits in distributions, disease type and location prediction, and diagnosis.

**Teaching Assistant**, Arkansas State University AI Campus 11/2018-03/2019

- Coached and supervised four groups of students from diverse backgrounds
- Project topics included **a)** natural language processing (topic modeling, image captioning, keyword search engine), **b)** image segmentation (medical MRI), and **c)** regression with gradient boosting methods

## Education

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**University of Michigan**, Ann Arbor, MI, USA 08/2016-04/2018

Master of Science in Bioinformatics

**University of Macau**, Macau SAR, China 08/2012-06/2016

Bachelor of Science in Biomedical Sciences

## Skills

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**Programming Languages:** Python (Expert), C++ (Intermediate), Dart (Intermediate), Swift (Intermediate), R (Intermediate), Java (Intermediate)

**Machine Learning Tools:** PyTorch (Expert), TensorFlow (Advanced), Keras (Advanced), scikit-learn (Intermediate), Pandas (Advanced)

**Other Technical Skills:** Dash (Advanced), Docker (Intermediate), Kubernetes (Intermediate), Git (Advanced), Agile Methodology (Advanced), KVM (Intermediate)

## Honors and Achievements

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University of Macau Full Scholarships 2012-2016

National 2nd Award in Challenge Cup Competition of Science Achievement in China 2013