

NINGKUN ZHOU

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Estimated time arrival in UK: Late August 2024

SUMMARY

Machine Learning Engineer with 5 Years of experience in Computer Vision and Biomedical Imaging. Served 5+ world-leading steel producers, achieving 95% system accuracy with 100% project acceptance rate. Expertise in integrating computer vision tasks into surveillance systems, specializing in fully automatic PTZ (pan-tilt-zoom) camera systems. Interested in implementing advanced techniques such as zero-shot classification and NLP-assisted computer vision for industrial production. Authorized to work under High Potential Individual Visa.

WORK EXPERIENCE

Danieli China

Algorithm Engineer

2022-present

- Developed an auto-adaptive PTZ camera image acquisition system from scratch using object-detection and cross-correlation
- Worked closely with customers and optimized the classification system to reach a 90% to 95% accuracy
- Introduced CLIP-base zero-shot image classification to reduce annotation workload by 50%
- Implemented and fine-tuned popular deep learning architectures to production level
- Handled large quantity of annotation data, more than 25,000 images and 1,00,000 polygons per dataset
- Integrated machine learning algorithms based on multiple widely used microservice frameworks

Chinese Academy of Sciences, GIBH

Research Assistant

2019-2022

- Applied non-supervised reconstruction algorithm to solve protein atomic-level structure using Cryo-EM
- Utilized deep learning algorithms in data pipeline, reducing daily human intervention by two hours
- Trained semantic segmentation to improve protein resolution by 0.5 angstrom
- Published two scientific papers on international reputable journals

EDUCATION

University of Wisconsin, Madison

2015-2019

- Bachelor of Science in Genetics and Genomics
- Certificate in Computer Science
- Intern at Amazon China Ads team

SKILLS

- **Machine Learning:** EfficientNet, U-Net, Mask R-CNN, YOLO, K-means clustering, CLIP
- **Programming:** Python (Tensorflow, Pytorch, Detectron2, Numpy, Pandas, Matplotlib), SQL, Bash
- **Miscellaneous:** Linux, Docker, Redis, Rabbitmq, RESTful API, PLC, Socket
- **Specialization:** Integration of machine learning algorithm in PTZ camera

PUBLICATIONS

- Structural basis of nucleosome deacetylation and DNA linker tightening by Rpd3S histone deacetylase complex. Cell Research, 2023.
- Vibrio parahaemolyticus prey targeting requires autoproteolysis-triggered dimerization of the type VI secretion system effector RhsP. Cell Reports, 2022.