Chen Zhou

https://zc534012448.github.io/

Email : zc19950514@gmail.com
Mobile : +1 8149549760
Github: zc534012448

Education

- **The Pennsylvania State University** — Pennsylvania, USA
  Ph.D. in Industrial Engineering; GPA: 3.8/4.0 — *Expected May 2025*
  - **Relevant Coursework**: Data Driven Design(A), Computational Foundations of Smart Systems(A), Statistical Computing(A), Concurrent Scientific Computing(A), Large-scale Machine Learning(A), Engineering Analytics(A-), Advanced Computer Vision(ongoing), Pattern Recognition and Machine Learning(ongoing)
- **Zhejiang University of Technology** — Hangzhou, China
  B.S. in Industrial Engineering; GPA: 81.2/100 (Top 10%) — *September 2014 – June 2018*

Professional Experience

- **PennTAP** — Pennsylvania, USA
  Technical Consultant Intern — *August 2021 – Present*
  - **Energy analysis toolkit**: Created multiple calculator tools to help consultants easily and efficiently analyze the energy data
- **Zhejiang ASD Household Equipment** — Hangzhou, China
  Data Engineer — *December 2017 – August 2019*
  - **New production line construction**: Designed algorithms to balance a complex mixed-flow production line and optimize the production scheduling.
  - **New production line simulation**: Utilized DEMO3D software to simulate and visualize the new production line operation and tested its production capacity.
  - **ERP system Development**: Designed the architecture of a distributed and service-oriented ERP system with Oracle SQL and Java.

Research Experience

- **Explainable AI: Robust interpretation for COVID-19 diagnosis**
  PSU LISA Lab & Hershey Medical Center — *August 2021 – Current*
  - Performed classification task on 33,920 patient data using various Transformer based and CNN based models.
  - Interpreted the models using saliency methods and evaluated the interpretation performance.
  - Proposed the token-labeling method which significantly improves the model interpretability by 12.1% on mIoU.
- **Explainable AI: Saliency Metric Inconsistency Analysis**
  The Pennsylvania State University — *December 2021 – March 2022*
  - Evaluated the existing saliency methods of CNN on ImageNet and CIFAR-10.
  - Addressed the inconsistency between the existing saliency methods by systematic analysis.
  - Proposed a method to identify the sources of inconsistency in fidelity metric and alleviate the inconsistency problem.
  - **Divide and Conquer the Fidelity Inconsistency in Saliency Metric**: European Conference on Computer Vision (ECCV), 2022 Submission.
- **Machine Learning: Classification on VAERS**
  PSU LISA Lab & MD Anderson Cancer Center — *January 2020 – May 2021*
  - Performed EDA on 9794 reports from Vaccine Adverse Event Reporting System (VAERS) data.
  - Built a deep neural network to predict the seriousness of the adverse events of the COVID vaccines.
  - **Clustering and classification based review of post-EUA mRNA COVID vaccines safety from the Vaccine Adverse Reporting System (VAERS)**: The Journal of the American Medical Association (JAMA) submission.

Programming Skills

- **Languages**: Python, C++, R, Java, Matlab
- **Frameworks and Technologies**: Keras, TensorFlow, PyTorch, FastAI