ZELONG (ERIC) ZHANG

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PhD level data scientist with 3 years of industry experience in computational modeling and data analysis. Hackathon winner and storyteller, passionate about finding actionable insights via x-team collaboration.

SKILLS

Programming: Python, AWS (Athena, EC2, Redshift, S3), SQL (Presto, PostgreSQL), Git, Bash, HTML, CSS
ML libraries: PyTorch, OpenCV, OpenVINO, Transformers, scikit-learn, Matplotlib, pandas, NumPy, SciPy, Fiona
Technical: Object Detection, Image Segmentation, Time Series Analysis, Spatial Analysis, Explainable AI, UI, NLP

EXPERIENCE

AI Data Scientist, Change Healthcare (merged with Optum in 2023), Remote   Jan 2021 – Present
Applied machine learning and data analytics to improve the efficiency and efficacy of US healthcare system

- Project 1: Analyze dental X-ray images for oral health risk evaluation
  - · Became the data science team's subject matter expert (SME) in radiography through self-study
  - · Conducted market analysis and opposition research to assist product team on product requirements
  - · Acted as the point of contact to communicate with radiologists to define and translate use cases
  - · Performed image segmentation and object detection on dental X-ray images
  - · Won the 1st place in Change Healthcare CodeFest 2021 (hackathon) as the team presenter
- Project 2: Apply computer vision to for layout analysis and content extraction of medical records
  - · Implemented and evaluated popular pretrained model frameworks, e.g. Faster/Mask/Cascade R-CNN, etc.
  - · Retrained and fine-tuned object detection model with vision transformer as backbone
  - · Collaborated with NLP team to build the pipeline to extract patient medical info from documentation
- Project 3: Predict delivery date of payment explanation to reduce the call volume of tech support
  - · Wrote complex queries with different schemas and tables to estimate delivery time
  - · Identified historical trends of delivery time and provide estimations tailored for stakeholders
  - · Cooperated with engineering and operations teams to turn the prototype into a product API
- Project 4: Improve identity matching with AI for members with multiple healthcare insurance plans
  - · Cleaned and standardized data of member identity across different data sources
  - · Applied string similarity algorithms and achieved 50% increment on recall over rule-based approach

Fellow, Insight Data Science Fellowship, San Francisco, CA   Sep 2020 – Dec 2020
- Developed a NLP model to forecast user churn in THE RUN EXPERIENCE ™, a fitness app
  - · Fined-tuned NLP BERT model by hand-labelling to extract text sentiment
  - · Provided a 4-week time window for retention team to engage users at high risk of churning

Awards and Patents

Hackathon winner: No.1 and No.3 in Change Healthcare CodeFest 2021 and 2022, respectively
Spotlights Awards: "Align - Fosters Teamwork" (twice), "Navigate - Advances Innovation"   2021 – 2023
Patent: AI Assisted Decision Support System for Adjudicating Dental Claims (filed, USPTO #18189293)   2022
Patent: AI-based Automated Dental Claim Fraud Detection Framework (pending)   2023

EDUCATION

Ph. D. in Computational Geochemistry, Louisiana State University, Baton Rouge, LA   Sep 2020
M. Sc. in Geochemistry, Stony Brook University, Stony Brook, NY   May 2014
B. Sc. in Geochemistry, China University of Geosciences, Wuhan, China   Jul 2010