OGUZ AKKAS

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No Sponsorship is required. Authorized to work in the USA (US Citizen)

Skills

• NLP: Spacy, NLTK, Gensim, HuggingFace, Bert, GPT2 and GPT3, ChatGPT, GPT-4.
• Machine learning tools: Regression, SVM, Decision Trees, Bayesian Network, Neural Network, Random Forest, XGBoost, and Sklearn libraries.
• Deep learning (DNN, CNN, RNN. LSTM and RNN) experience and used tools such as Keras, Tensorflow, Caffe, PyTorch.

Big Data Tools
•Hadoop and Spark

Cloud Computing
• GCP (VM, ML Engine, BQ, etc.)
• AWS (SageMaker, EC2, S3, EKS, etc)

Computer Programming
• Python, Dart
• Familiar with Java, C++, C#, MATLAB, R, JavaScript

Cloud Resource Creation
• Terraforms

Version Control and Repositories
• Git, Github, Gitlab, Data Version Control (DVC)

Cloud Resource Provisioning
• Ansible

Workflow and Pipeline Automation
• Prefect, MlFlow, and Airflow

Dep. Management and Packaging
• Pip, Penv, Poetry

Professional Experiences

VeranaHealth, Remote
Senior ML/MLOPs Engineer *March 2022 – Present*

- Architecture, design, and implement ML platform that developers can easily experiment, test and deploy ML models for business units to use. Tools and tech stack include AWS SageMaker, Lambda functions, Terraform, GitHub Actions, Jira Automation, Slack messaging, and Docker.
- Created an automated data labeling pipeline that uses AWS SageMaker ground truth tool.
- Created text-based ML model training and deployment templates that use PyTorch and HuggingFace.
- Employed Terraform and GithubActions for IAC and CI/CD.
- Trained junior developers and other team members on how to use pipelines.
- Integrate ML models with Airflow and Apache Spark based data pipeline, and optimize ETL for pre/post processing.
- Monitoring models with SageMaker model monitoring services.
- Working on a self-service end-to-end model deployment pipeline that deploys models based on the input from data scientists, ml engineers. The pipeline has several checks and test to ensure all the information provided are appropriate, performs performance tests to give best instance and scaling recommendations.

Wind River, Broomfield, CO
Senior Machine Learning Software Engineer *April 2021 – March 2022*

- Leading the design, development, and integration of the data science platform for handling data, pioneering

many new industry-leading capabilities in a high performance, usable, high-quality system.
- Wrangling data and building, evolving, and deploying analytical models to improve our products, the customer experience, and ultimately the business.
- Collaborating cross-functionally with data scientists, architects, technologists, product managers, development, and customer-facing teams to deliver intelligent cloud analytics solutions across a wide portfolio of class-leading products, in many industry verticals, and ensure high performance, usability, and product quality.

Pinnacol Assurance, Denver, CO
Natural Language Processing Engineer/Data Scientist *Sept 2019 –April 2021*
- Performed exploratory data analysis (EDA) techniques using Python (sklearn, pandas, numpy, matplotlib, seaborn) to gain insight into business problems.
- Applied several machine learning (logistic regression, SVM, random forest, XGBoost, linear regression, survival analysis) and deep learning models (DNN, CNN, LSTM, Attention based models) that take data and make recommendations based on the model prediction.
- Created end-to-end machine learning pipelines (Sklearn, Airflow, PySpark, Prefect) that take data from a database (Oracke, MySql, Postrgresql, BigQuery) , perform transformation and pre-processing (Python, PySpark, Spacy) on the data either on query level or after query, get model predictions, writes results to a table, and alert users if necessary.
- Automated workflow through Docker, Kubernetes, cloud products (Google Kubernetes Engine, AI Platform, Cloud Run, Pub-Sub, Cloud Storage, BigQuery), airflow, and many other tools.

Synergy America, Duluth, GA CDC/NIOSH/WSD, Spokane, WA
Principle Scientist *Sept 2018 –Sept 2019*
- Performed data collection, cleansing, and EDA to determine the feasibility of machine learning modeling for the business problem.
- Developed text-based machine learning models that translate injury history to several occupational injury classification codes.
- Performed epidemiological analysis using SAS to thousands of injury data to gain insight into injuries in several industries.

Blankenheim Services, Appleton, WI
Senior Research Scientist, *Jan 2017 – Sept 2018*
- Assessed jobs/tasks using ergonomic tools such as NIOSH lifting guidelines, EMG, Force gauge, RULA, REBA, HAL, and SI.
- Developed mathematical injury risk assessment models and compared them with the current model.
- Validated models with risk and injury data of workers.
- Prepared injury risk assessment reports for the clients that suggest some improvements for the current work environment.

Augment, Madison WI
Machine Learning Specialist, Contractor *January 2016 – January 2017*
- Used Tensorflow and Keras to create deep learning models to estimate XML to HTML conversion of a web page.
- Created simple website examples using WebML and WebRatio and squired source codes.
- Wrote scripts to process HTML and XML data into clean tokens.
- Applied Gensim Doc2Vec model to vectorize HTML and XML text.

Occupational Ergonomics and Biomechanics Lab, Madison, WI
Research Scientist, *May 2012 – January 2017*
- Assessed factory videos and applied hand tracking algorithms to acquire hand kinematic data such as speed and velocity.
- Modeled hand activity of workers using kinematic data from hand tracking.

- Developed algorithm using machine learning and deep learning techniques to predict workers' time spent in sub-activities.
- Collaborated with an interdisciplinary team on estimating driver's distraction and engagement from naturalistic driving videos.
- Designed experiments to conduct data to test the hypothesis for research questions. The specific hypothesis was could we quantify driver's distraction and engagement from video recordings.
- Developed software products to conduct data to be used for an experiment.
- Modeled the driver's distraction and engagement from head tracking data using various machine learning methods.
- Created a data visualization algorithm to display data and corresponding videos.
- Supervised and mentored 2 graduate and 5 undergraduate students in the lab.

Education

University of Wisconsin-Madison
Ph.D. (ABD) in Industrial and System Engineering — January 2017

University of Wisconsin-Madison
M.S. in Industrial and System Engineering — *August 2013*

Istanbul University, Istanbul
Master of Business Administration — *August 2010*
B.A. in Management, *Quantitative Methods Track* — *June 2008*

PUBLICATIONS

- Akkas, O., Azari, D. P., Chen, C. H. E., Hu, Y. H., Ulin, S. S., Armstrong, T. J., Rempel, D. and Radwin, R. G. A hand speed–duty cycle equation for estimating the ACGIH hand activity level rating. Ergonomics, 58(2), 184-194, 2015.
- Akkas, O., Lee, C., H., Yen, T., Hu, Y. H., and Radwin, R. G. Measuring Elemental Time and Duty Cycle Using Automated Video Processing. Ergonomics, 59 (11), 1514-1525, 2016.
- Radwin, R. G., Lee, J. D., Akkas O. Driver Movement Pattern Indication of Distraction and Engagement. Human Factors, 02, 2017