Farruh **Kushnazarov**

Senior Solutions Architect

Shanghai/China

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As an self-sufficient AI engineer with more than 8 years of experience, I proficiently execute data-driven solutions to enhance efficiency and accuracy. My passion for software, databases, and AI drives me to deliver cutting-edge solutions.

Experience

Senior Solutions Architect

Hangzhou, China

Alibaba Cloud Global

April 2022 –> Present

- Provide Generative AI solutions using foundation models (LLM, Stable Diffusion, etc.) for business use cases.
- Responsible for Generative AI solutions outside of China, such as Qwen, Animate Anyone, and EMO.
- Building and integrating information systems related to AI and Big Data to meet the company’s needs
- Resolving technical Generative AI and AI/ML/DL problems as they arise
- Providing supervision and guidance to development teams
- Continually researching the current and emerging technologies in computer vision, NLP, etc, and proposing changes where needed
- Assessing the business impact that certain technical choices have
- Providing updates to stakeholders on product development processes, costs, and budgets

Lead Research Engineer

Foshan, China

Midea HBT

November 2020 –> April 2022

- Languages — Tensorflow, Keras, Python, SPARQL, Cypher, RDF, Ontology
- Use data science methods to work with domain experts to develop and implement data-driven solutions
- The work mainly involves data-driven predictive control, predictive maintenance, fault diagnosis, behavior pattern analysis, etc.
- Carry out including experimental design, data collection, data analysis, model building, model verification, model deployment, continuous Iteration, and other aspects of work
- Complete the data modeling analysis report, and carry out technical precipitation
- Read relevant literature and keep up with the latest developments in data science and business
- Interview the potential candidates for the data scientist team

Big Data & Data Scientist Manager

Shanghai, China

Ping An Hao Xue, under Ping An (平安) China

September 2016 –> November 2020

- Languages — Python, Tensorflow, Keras, R, RMarkdown, SQL, Spark and Hive
- NLP: have done projects like text classification, sentiment analysis, and text summarization.
- Implemented and retrained Mozilla DeepSpeech library for Automatic Speech Recognition
- Created and tested the Speech Accent Classification System for native and non-native speakers, with a rate of 99% in metric recall
- Conducted classification analyses of the customer life cycle stage to increase overall turnover
- With algorithmic, optimized ongoing ML/DL models and checked the performance of implemented models
- Established the Machine Learning model for refund customers and updated the refund model. Decreased the overall refund rate to 27%

Automatic Driving Prospective Technology Engineer

Shanghai, China

Haima automatic Investment Group Co. Ltd, R&D Center

April 2016 –> September 2016

- Languages — C/C++, Python and Bash
- Connected lidar and radar to decrease noises in raw data
- Designed a model car to check the capability of algorithms on ultrasonic sensors
- Optimized CANBus protocol to increase the efficiency of data transfer
- Optimized joint work and logic compatibility of equipments

Education

Emperor Alexander I St.Petersburg State Transport University

St Petersburg, Russia

Mathematical modeling, numerical methods and computer programs

September 2012 –> March 2016

- Doctor of Philosophy (Ph.D.)
- Research Field: Develop data transmission methods for evaluating the real speed of data link layer protocols, which aimed at improving hardware and software components

Emperor Alexander I St.Petersburg State Transport University

St Petersburg, Russia

Information systems and technologies

September 2008 –> June 2010

- Degree: Master of Science
- Research Field: Develop and optimize computer network systems

Emperor Alexander I St.Petersburg State Transport University *St Petersburg, Russia*

Information systems and technologies *September 2004 –> June 2008*

- Degree: Bachelor of Computer Science
- Research Field: Develop and optimize computer network systems

Selected Projects

NLP: Speech Accent Detection

Project Link

Everyone who speaks a language, speaks it with an accent. This project defines accents for the english language speakers

2020

- Role: Author and Maintainer
- Results: Accuracy=.90, Recall=.91 and Precision=.93
- Increase accuracy of ASR (Automatic Speech Recognition)

NLP: Text classification

Private

Classified to 10 different topics

2019

- Data sources: Title, Description, Text
- Method: LDA
- Result: 10 topics. Accuracy=.87

Data Science Skills

Programming/Markup Languages

Python, R, SQL/NoSQL, Hive, Spark, C/C++, Matlab, BASH, CSS, HTML, LaTeX, Markdown and RMarkdown

Software Development

Docker, git, version control, automated testing and continuous integration, A/B testing (Statistical Testing and Experiment Design)

Numerical Methods

optimization (stochastic, genetic, multi-start) and numerical solution of differential equations

Statistics

Machine learning, data analysis, generalized linear regression, cluster analysis, factor analysis, principal components analysis (PCA), cross validation, generalized additive models, data analytics

Selected Publications

1. Li, J., Li, N., Yue, B., Yan, R., Kushnazarov, F., Li, A., & Li, K. (2022). Research on the semantic web representation for building operation with Variable Refrigerant Flow systems. *Journal of Building Engineering*, *56*, 104792. https://doi.org/10.1016/j.jobe.2022.104792
2. ZHAO, D., FAN, B., & Kushnazarov, F. (2021). Anomaly detection of unitary air conditioners based on isolation forest method/基于孤立森林方法的单元式空调器异常检测. *Chinese Journal of Refrigeration Technology/制冷技术*, *183*. https://scjg.cnki.net/kcms/detail/detail.aspx?filename=ZLJS202103007&dbcode=CJFQ&dbname=CJFD2021&v=
3. Kushnazarov, F. (2019). Data stream controlling in communication channels with noise. *2019 IEEE 4th International Conference on Cloud Computing and Big Data Analysis (ICCCBDA)*, 534–538. https://ieeexplore.ieee.org/abstract/document/8725672
4. Kushnazarov, F., & Yakovlev, V. (2015). *The protocols performance evaluation of the data link layer in the ISO/OSI model* (Patent No. RU 2015619739). https://patentinform.ru/programs/reg-2015619739.html