Masi Nazarian

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Work Experience

Ask Media Group. Data Scientist. SEM Data Science Team. Oakland, CA. Apr - Jul 2020

- Translated business problems into data science and analytics solutions implemented as proof of concept notebooks / end-to-end pipelines to improve daily business decision making and/or boost KPIs.
- Owned the daily and intra-day report pipelines integrating several models and external API data.
- Built predictive models to estimate business critical KPIs.
- Automated SEM portfolio management tasks with solutions scalable to millions of keywords.
- Communicated new proposals and analytics results to technical and non-technical stakeholders.

- **Keyword Topic Clustering to Identify Daily Trending Topics**: scaled to 35+ domains and 1+M queries per domain. Unveiled various revenue optimization opportunities.
- **Keyword BERT Embedding Repository:** enabled significant (>40%) reduction in data processing time of several revenue-critical NLP pipelines.
- **Automated Portfolio Segmentation Platform:** Saved at least 4hr/week per PPC manager time while improving accuracy, enabling use of larger data and introducing several new segmentation strategies.
- **Category Classification:** Model to predict missing hierarchical category label for a given query. The fasttext-based model was trained on >150M in-house queries.
- **RPC and CPC (revenue and cost per click) Prediction Models:** The predictions combined with several heuristic rules were used to suggest bid values per keyword. Scaled to 100k+ kws/domain.

Tools and Skills: Clustering methods (Kmeans, DBSCAN, Hierarchical Clustering). ANNOY. HDBSCAN. Bert. Supervised and unsupervised fasttext models trained on millions of in-house data. Created multiple python packages. Time Series Analysis. Logistic Regression. Random Forests.

Ask Media Group. Software Engineer, Polyglot/Go. Products Team. Oakland, CA. Jul 2019-Mar 2020

- Shared responsibility within a small agile team for development, maintenance, and availability of 20+ backend components and APIs.
- Collaborated with product managers to determine end-to-end requirements of new services.
- Worked with other team members to brainstorm on design approaches, evaluate alternative strategies considering time and dev resource constraints, and define success measures for each project.
- Contributed to migration of more than 20 online backend services from AWS to Google Cloud.
- Conducted daily Code Reviews. Wrote Software Design Documents and Proposals.

- **Related Search Data Pipeline:** Designed and implemented the data refresh pipeline to calculate and cache candidates and features. Scaled to >15M keywords. Improved candidate quality and recency to meet product expectations. Improved CTR and revenue while optimizing for relevance vs diversity.
- **Related Search Service:** Re-architected and consolidated suite of multiple related search services into a simpler core service and a **Solr** service. Improved latency by at least 50%, decreased network costs by 40%, increased coverage, and reduced code complexity and maintenance time.
- **Content Ranker Module:** designed and implemented an end-to-end data pipeline exposed through a simple GUI to pull, preprocess, rank articles and cache generated feeds for various AMG websites.
- **Automated index generation and ranking for SERP:** See my work at any AMG SERP Page.

Tools and Skills: AWS (EC2, EMR, ElastiCache (Redis), Aurora). Kubernetes. Docker. Python. Go. Java. Google Ideas and Stats APIs. Dask. PySpark. Solr. ElasticSearch. SQL. Snowflake. Looker. Directus CMS. fasttext. JavaScript. NodeJs. Bayesian bandits. A/B testing and experimentation.

Mizuho OSI. Software Engineer II R&D. Union City, CA. Dec 2018-Jun 2019
Mizuho OSI. Software Engineer I R&D. Union City, CA. Feb-Nov 2018

- Developed from ground up a remote diagnostics IOT solution for Zentrum i3™ general surgical table.
- Implemented new features and debugged both firmware and software.
- Wrote Code Reviews, Software Design Documents, and User Interface Specification Documents.
- High performer in the team; achieved 2X of monthly expected story points on average.

- **Wireless/Wired Hand Pendant:** Improved responsiveness and reliability of the primary dual-mode control unit by factor of 10. Leveraged multi-threading and redundant failure checks to optimize for data freshness, responsiveness, and accuracy trade-off while meeting regulatory requirements.
- **Remote Diagnostics Platform:** Architected and developed the first prototype of a remote diagnostics solution that is compatible across several Mizuho OSI surgical tables.

Tools and Skills: Embedded Systems. C. C++. C#. .Net Frameworks. WPF. Socket Programming. Multi-Threaded Programming. RTOS (ThreadX). ZigBee. HL7 and ISO/IEEE 11073. e2studio. Renesas Synergy MCU. GuiX Studio. MPLABX. Digital Analyser and Hardware Test points. Logic Analyser. Oscilloscope. SVN. Optimize inter-thread messaging mechanisms.

San Jose State University. Graduate Teaching Assistant (CMPE-297 IOT). Sep-Dec 2018
University of Tehran. School of Engineering. Teaching Assistant (multiple courses). 2010-2013

Technical Skills

Machine Learning. Natural Language Processing. Predictive Analysis and Statistical Inference. Time Series Analysis. Data Structures and Algorithms. REST APIs. OOP Design. Agile Methodologies. Design Patterns. Embedded Systems. Unix | Linux, Git, Gitlab.

Programming Languages: Python, Go, R, C++, C, C#, JavaScript, Java, Assembly X86, Bash.

Machine Learning: dask, pyspark, pytorch, sklearn, spacy, etc.

Cloud Technologies: AWS, Google Cloud, Docker, Kubernetes, Kustomize, Helm.

Databases and Tools: SQL, Redis, MongoDB, Riak, Solr, ElasticSearch, Snowflake, Looker.

Web Development: MERN, LAMP, NodeJS, AJAX, jQuery, HTML5|CSS, Bootstrap, PHP.

Education

M.S. Software Engineering. San Jose State University. 2017-present
Thesis: Safe online learning to rank for short text tsing multi-armed bayesian bandits.
B.S. Engineering. University of Tehran. Tehran. Iran. [Top 3 in program]. 2009-2013
Thesis: A fuzzy expert decision-making model for candidate-well selection in hydraulic fracturing.

Honors and Affiliations

FOE (Faculty of Engineering) Top Student Award.
National Silver Medal in 15th Iranian National Physics Olympiads. Young Scholars Club.
Member of IEEE, ACM, Society of Women Engineers (SWE), Engineers Without Borders (EWB).