

Trung Hieu Tran

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RESEARCH INTERESTS

Deep Transfer Learning, Transfer Reinforcement Learning, Deep Learning, Recommendation System, Search Engine, IoT Data Discovery, Stock prediction AI model

EDUCATION

- **University of Texas at Dallas** Texas, USA
 - *Ph.D. in Software Engineering, M.S in Computer Science* 2018 – 2022
 - PhD Dissertation: *IoT Data Discovery and Transfer Learning*
- **Volgograd State Technical University** Volgograd, Russia
 - *B.S., Software Engineering* 2011 – 2016

EXPERIENCE

- **Meta AI (Facebook AI)** *August 2022 - present*
 - **Research Scientist** - Working at Meta AI under Modern Recommendation System Team. Support AI stack to build ML models for recommendation systems used in Facebook Watch, Facebook Newsfeed, and Instagram Reels.
- **Facebook Inc.** *Melon Park, CA, Summer 2021*
 - **PhD Intern** - Designing and implementing learning model infra for personalization signals in commerce search stack of Facebook App including retrieval stage, featuring data for learning model in ranking stage.
- **Apple Inc.** *Cupertino, CA, 2020-2021*
 - **PhD Intern** - Designed and deployed an internal system to manage a large number of acoustics data learning models; that contains indexing, searching, and recommendation system for metadata; 2D and 3D visualization for data analysis.
- **PageBites, Inc | imo.im messenger** *San Francisco, CA, Summer 2020*
 - **PhD Intern** - Worked on core microservices of imo messenger; Improved CI/CD pipeline running time with x2- x3 times faster; Built an automatic code review tool to detect bugs, vulnerabilities, and code smells; Improved services performance and optimized Redis memory; Deployed new services for monitoring Redis memory.
- **Coc Coc Search** *Hanoi, Vietnam, 2016-2018*
 - **Data Analyst** - Crawled and indexed 5+ billion websites to big data warehouse. Maintained a very large scale system of searching and ranking. Detected duplication of webpages and documents with locality sensitive hashing.
- **University of Texas at Dallas** *Richardson, TX, 2018 - 2022*
 - **Research Assistant** - Related to my research interests above;
 - **Teaching Assistant** - Courses: Automata Theory; Software Testing; Computer Network Security; Cluster Computing Algorithms; Computer Science I; Software Architecture; Real-Time Systems.

SELECTED PUBLICATIONS

- TLETA: Deep Transfer Learning and Integrated Cellular Knowledge for Estimated Time of Arrival Prediction. 25th IEEE International Conference on Intelligent Transportation Systems 2022 (**IEEE ITSC 2022**) ([Paper](#))
- Transfer Reinforcement Learning for Differing Action Spaces via Q-Network Representations ([arxiv](#))
- Into Summarization Techniques for IoT Data Discovery Routing. ACM/IEEE International Conference on Cloud Computing 2021. (**CLOUD 2021**) - Top conference in Cloud Computing. ([Paper](#)).
- Recovering Variable Names for Minified Code with Usage Contexts. In Proceedings of the 41st ACM/IEEE International Conference on Software Engineering (ACM/IEEE **ICSE 2019** - Rank 1st in Software Engineering, Ranking: A*) ([Paper](#)).
- Graph-based Mining of In-the-Wild, Fine-grained, Semantic Code Change Patterns. In Proceedings of the 41st ACM/IEEE International Conference on Software Engineering (ACM/IEEE **ICSE 2019** - Rank 1st in Software Engineering, Ranking: A*) ([Paper](#)).
- Feature-Interaction Aware Configuration Prioritization for Configurable Code. in Proceedings of the 34th ACM/ IEEE International Conference on Automated Software Engineering (ACM/IEEE **ASE 2019** - Rank 10th in Software Engineering, Ranking: A) ([Paper](#)).
- Detection and Prediction of Users Attitude Based on Real-Time and Batch Sentiment Analysis of Facebook Comments. The 5th International Conference on Computational Social Networks (**CSoNet 2016**) ([Paper](#)).

PROFESSIONAL SERVICES

- Reviewer for several Top Conferences: ICSE (Ranked A*), FSE (Ranked A*), ASE (Ranked A), WWW (Ranked A*), IEEE ICWS 2022 (Rank A)

SELECTED PROJECTS

- **Stock Terminator** - Built an AI bot using long short-term memory model (LSTM) for automated stock trading with prediction accuracy of 75% and made profits on Robinhood.
- **Transfer Learning for IoT Data** - Built a deep transfer learning model to estimate time of arrival using IoT data.
- **IoT Data Discovery** - Built novel routing algorithms for large and growing scale IoT networks; Investigated in depth the routing table summarization techniques to support space-efficient; Investigating new transfer learning systems for IoT data streams;
- **JSNeat** - Introduced an information retrieval based approach to recover the variable names in minified JS code by searching for them in a large corpus of open-source using relation graph, fuzzy set and topic modeling.
- **Sentiment Analysis** - Build a real-time system for sentiment text analysis with NLTK; Detect and predict sentiment patterns with batch processing for Facebook comments.

SKILLS

- **Languages** - Java, C/C++, Python, Bash, PHP, Hack, JS, SQL, Scala;
- **Technologies** - Pytorch, TensorFlow, Scikit-learn, Hadoop, HDFS, Apache Spark, AWS, Redis Database, OpenTSDB, Kafka, Microservices, Apache ZooKeeper, Puppet, Cassandra, Hive;
- **Knowledge** - Data Mining, Deep Learning, Recommendation System, Machine Learning, Natural Language Processing, Crawling and Indexing, Artificial Intelligence, Cloud Computing, IoT Network, BigData.

ACADEMIC HONOURS AND AWARDS

- **Scholarships** - for Ph.D., M.S., B.S degrees
- **Second Prize** - in ACM-ICPC Northeastern Europe Regional Programming Contest NEERC
- **Awards** - in multiple Russian Programming Contests, Vietnamese National Olympiad in Informatics

REFERENCES

- **Dr. I-Ling Yen** - Professor, University of Texas at Dallas - ✉ ilyen@utdallas.edu
- **Dr. Farokh B. Bastani** - Professor, University of Texas at Dallas - ✉ Farokh.Bastani@utdallas.edu
- **Dr. Maxim Shcherbakov** - Professor, Volgograd State Technical University - ✉ maxim.shcherbakov@vstu.ru