Bui Duy Quoc Nghi

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Research Interests

Information retrieval for source code
Using machine learning for programming language modeling
Neural-based programming language translation

Education

Doctor of Philosophy (Ph.D) in Information Systems
8/2016 — 8/2020 (expectation)

Singapore Management University

Advanced Program in Computer Science
9/2009 — 10/2013

Ho Chi Minh University of Science - Viet Nam

Work experience

701Search - Viet Nam
3/2015 — 5/2016

Software Engineer

Worked as a backend engineer to develop large-scale distributed systems that can handle millions of user requests per day for an e-commerce website.

Atlassian - Viet Nam
1/2014 — 2/2015

Software Engineer

Worked as a software engineer in JIRA team to develop useful libraries and features for internal usage.

Kwangwoon National University - Korea
8/2013 — 1/2014

Research Assistant

Got a research scholarship to work as a research assistant at Distributed Computing lab. The topic is about the applications of Network functions virtualization (NFV) to virtualize entire classes of network node functions.

Technical Skils

Languages: Python, Java, Scala, C/C++, C#, Javascript.
Storage: MySQL, PostgreSQL, MongoDB, Hazelcast, Redis, ElasticSearch, Lucene.
Big Data: Hadoop, Spark
Machine learning: Tensorflow, scikit-learn, spacy.io, pytorch.

Research Projects

Undergraduate thesis: WILO: An Indoor Location-Based Mobile Recommender Application (GPA : 9.5/10)
An Android application for indoor localization

API mapping for cross programming languages
The model is based on the bilingual skip gram that is able to learn the mapping between 2 programming languages at the token level. The result shows that the model can mine more 400 mappings than the state-of-the-art approach.

Cross programming languages modeling
Build a Siamese-style deep neural network model based on syntax tree for algorithm classification. Dependency such as data flow, control flow is annotated into the tree to enhance the semantic information, the model is able to classify 10 types of different algorithms across C++ and Java.

Publications

Cross-Language Learning for Program Classification Using Bilateral Tree-Based Convolutional Neural Networks , by **Nghi D. Q. Bui, Lingxiao JIANG, and Yijun YU** . In the proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI) Workshop on NLP for Software Engineering, New Orleans, Lousiana, USA, 2018.

Hierarchical Learning of Cross-Language Mappings through Distributed Vector Representations for Code , by **Nghi D. Q. Bui, Lingxiao JIANG** , in Proceedings of the IEEE/ACM 40th International Conference on Software Engineering: New Ideas and Emerging Technologies Results Track (ICSE-NIER), Gothenburg, Sweden, 2018 - *(Distinguished paper award)*

Awards

Top 10% students for the university entrance examination
Korean National Research Scholarship
Full Ph.D Scholarship from Ministry of Education Singapore
ACM Sigsoft Distinguished Paper Award 2018

References

Website: https://bdqnghi.github.io
Linkedin: https://www.linkedin.com/in/quocnghi
Github: https://github.com/bdqnghi