Hong, ONG Xuan

Phone: +84973416771

Scholar: https://scholar.google.com/citations?user=hvjCul4AAAAJ&hl=en&oi=ao

Email: ongxuanhong@gmail.com

I'm passionate about applying state-of-the-art Machine Learning methods and Big Data Advanced Analytics to solve challenging problems related to Healthcare & Life Science, Digital marketing, Fin-tech, Digital transformation, and Engineering.

I have been working as a Machine Learning Engineer for more than 10 years in the field of AI, Machine Learning, and Advanced Computing. My roles is applying MLOps practices and Reliable AI to deliver production-quality Machine Learning Models efficiently on cloud data platforms as well as on-premise.

Linkedin:

- *https://www.linkedin.com/in/ongxuanhong*

Blogs:

- *https://medium.com/@ongxuanhong*
- *https://ongxuanhong.wordpress.com*
- *https://wearecommunity.io/users/hong-ong*

EDUCATION

JAIST Japan Advanced Institute of Science and Technology
2013 – 2015

Master's Degree Field Of Study Natural Language Processing

Paper: Ong, H. X., Minh, N. Le, & Tojo, S. (2016). Reranking CCG Parser for Jazz Chord Sequences. In The Eighth International Conference on Knowledge and Systems Engineering.
http://ieeexplore.ieee.org/document/7758054/?reload=true

University of science
2008 – 2012

Bachelors Field Of Study Computer Science

Machine learning, Data mining, Data analysis (R, Python, Weka), Natural language processing, Computer graphics, Image processing, Web development (PHP and MySQL).

RESEARCH EXPERIENCES

Artificial Intelligence & Data Education Institute (AIDE)
Nov 2022 - Now

Teacher

- Develop and deliver comprehensive course material on fundamental data engineering, incorporating latest industry trends and technologies.
- Conduct lectures, workshops, and interactive sessions to provide theoretical and hands-on knowledge on data engineering concepts.
- Evaluate and assess students' progress through assignments, projects, and examinations, providing constructive feedback.
- Mentor and guide students on various data engineering tools and techniques, assisting them in becoming industry-ready.
- URL: https://www.facebook.com/aideinstitutevietnam

ALZHEIMER DISEASE RESEARCH GROUP
2019 – 2021

Reseacher

- Conducted research on the creation of an intelligent diagnostic framework for Alzheimer's Disease using Extreme Gradient Boosting and brain structural atrophy extracted from MRI scans.
- Contributed to the development of an AI software named "Brain Analytics" which functions as an Alzheimer's disease diagnosis and analysis tool.
- URL: https://research.vnuhcm.edu.vn/index.php/vi/2023/03/18/brain-analytics/

JAIST Japan Advanced Institute of Science and Technology
2014 – 2015

Research Assistant

- Conducted research on reranking model using simple n-gram features and an optimized perceptron algorithm to improve parsing system performance.

INDUSTRIAL EXPERIENCE

EPAM Vietnam
Nov 2022 - Now

Lead Data Software Engineer
- Taking care of organizational units by leading people towards, and enabling effective achievement of business goals.
- Applying new technologies, and optimizing MLOps practices to deliver production-quality of Machine Learning Models in an efficient way on cloud data platform (Azure, AWS, GCP) also on-premise.
- Responsible for standardized unit tests, develop CI/CD pipelines, scripts to automate MLOps pipelines and APIs deployment, Big Data computation optimization, experiment tracking, data drift, and model drift detection.
- Major and interests research: Natural language processing, Computer Vision and Data mining.
- Key business domain: Healthcare & Life science, Digital marketing, Fin-tech, Digital transformation.

HSV Group
Nov 2021 - Nov 2022

Senior Machine Learning Engineer
- Building and leading Data Science team for the fast-growing business.
- Built data pipelines to ingest data from multiple sources (ERP, CRM, Ecommerce, Flat files) to the Data platform and Data warehouse.
- Responsible for collecting data (POS stores, marketplace, ecommerce), putting it into the Data warehouse, preparing master data for references, ABC products analytics, and building forecasting models for the next 2 months.
- Developed Flask API for system integration with partners.
- Communicated with non-tech departments to align language across the team: On self-availability, Stock cover month, safety stock, lead time, risk management, evaluation metrics RMAPE, manage expectations, and deliver high-quality data products.

Pizza 4Ps
April 2021 - Nov 2021

Senior Machine Learning Engineer
- Develop recommender system APIs (Flask, PostgreSQL, Redis, Spark, GCS).
- Develop and maintain data platform from multiple SaaS (Salesforce, Tablecheck, SAP, etc).
- Conduct data analyst for sales forecasting, reservation, and association rules mining.
- Working on BI visualization tools (Google data studio, Redash, Metabase, etc).
- Cloud services: GCP, Azure, AWS.

Trusting Social
Sep 2017 – Feb 2021

Data Scientist
- Developed feature engineering for credit scoring using Apache Spark.
- Tuned machine learning models.
- Optimized computation on Spark clusters.
- Developed data pipelines for calculating and combining features.
- Crawled additional data to enrich predictive models.
- Training Research Engineers members.

Knorex
Mar 2016 – Aug 2017

Data Engineer
- Developed dashboard reports for analyzing impressions, clickthrough rate, and conversion rate of advertising campaigns.
- Ingested stream data to track page views and click events.
- Developed APIs for data management.

PUBLICATIONS

Ensemble learning using traditional machine learning and deep neural network for diagnosis of Alzheimer's disease

31 August 2022

Elsevier

In this study, we propose an ensemble learning framework that combines deep learning and machine learning. The deep learning model was based on a 3D-ResNet to exploit 3D structural features of neuroimaging data. Meanwhile, Extreme Gradient Boosting (XGBoost) machine learning was applied on a voxel-wise basis to draw the most significant voxel groups out of the image.

Authors: Dong Nguyen, Hoang Nguyen, **Hong Ong**, Hoang Le, Huong Ha, Nguyen Thanh Duc, Hoan Thanh Ngo

Achievements: https://research.vnuhcm.edu.vn/index.php/vi/2023/03/18/brain-analytics/

URL: https://doi.org/10.1016/j.ibneur.2022.08.010

A Machine Learning Framework Based on Extreme Gradient Boosting for Intelligent Alzheimer's Disease Diagnosis Using Structure MRI

26 August 2021

Springer

We propose a framework for AD diagnosis using XGBoost and brain structural atrophy. Our framework employed FreeSurfer library to extract insightful features such as volumetric measures and voxel- or vertex-wise atrophy from structural MRI brain scans collected from Alzheimer's Disease Neuroimaging Initiative. These extracted features were then fed into Extreme Gradient Boosting (XGBoost) which is an ensemble learning algorithm with a decision tree as a base learner to distinguish AD patients from cognitively normal subjects (CN).

Authors: **Hong Ong**, Hoang Le, Hoang Nguyen, Dong Nguyen, Huong Ha, Hoan Thanh Ngo, Nguyen Thanh Duc

URL: https://link.springer.com/chapter/10.1007/978-3-030-75506-5_66

Reranking CCG Parser for Jazz Chord Sequences

01 December 2016

IEEE

Using reranking model to improve the performance of the parser. By selecting a set of simple n-gram features and configuring perceptron algorithm for finding optimizing parameters, we have improved performance of the system by 2.2%, and even 6.57% when we could perfectly pick up correct candidates from 5000-best results.

Authros: **Hong Ong,** Le Minh Nguyen, Satoshi Tojo

URL: https://doi.org/10.1109/KSE.2016.7758054

HONORS

Speaker - We are community

May 2023 - Now

EPAM

- Maximizing Data Operations and Collaboration using the Feast Feature Store, Mar 2024 (url)
- Dagster - DataOps and MLOps for Machine Learning Engineers, Aug 2023 (url)
- DBT (Data Build Tool) an ELT approach for Advanced Analytics, May 2023 (url)

Digital Innovation and Retail Transformation Project

Aug 2022

DEG - Deutsche Investitions- und Entwicklungsgesellschaft

- For the successful completion of the Digital Innovation and Retail Transformation Project, a collaboration of HSVG, DEG, and Mekong Capital, from Nov 2021 to Aug 2022.

SKILLS

AI

- **Systems:** Deep Learning Systems, Machine Learning Systems.
- **Applied Sciences:** Deep Learning, Interview, Big Data, Clean Code, Neurology, Artificial intelligence, Generative AI, Algorithms & Data structures, Quantitative Methods, Engineering

Industries

- **Life Sciences & Healthcare:** Biomedical Research, Drug Discovery, Life Sciences & Healthcare
- **Industrial:** Operations Management
- **Financial Services:** Quantitative Analysis, Operational Risk Management

Leadership & Soft Skills

- **Leadership:** Mentoring, Developing Others, Driving Change and Innovation, Influencing, Leadership
- **Teamwork and Collaboration:** Team Management, Teamwork and Collaboration
- **Talent Acquisition:** Interviewing candidates
- **People Management:** Performance Development, People Management, Employee Recognition, Employee Retention, Interviewing and Hiring, Navigating EPAM people management processes
- **General Management:** Scrum, Agile, Interviews, Data Modeling, Software Development Methodologies

Technologies

- **Framework:** Flask, Apache Flink, Apache Spark, TensorFlow, PyTorch, Apache Hadoop, Keras, Deep Learning Frameworks, Flask-RESTful, TensorFlow Serving, FastAPI
- **Data:** Snowflake, MySQL, PySpark, Databricks, Data Warehousing, MongoDB Atlas, Amazon Redshift, Google Cloud Storage, Kafka Streaming and Connect, Apache Airflow, PostgreSQL, Azure Blob Storage, Milvus, RabbitMQ.
- **Platform:** Kubernetes, dbt, Microsoft Azure, Google Cloud Platform, Salesforce, Amazon Web Services, Docker.

REFERENCES

Minh, NGUYEN Le, Professor

JAIST Japan Advanced Institute of Science and Technology

Information Science, Computing Science

Email: nguyenml@jaist.ac.jp

Website: https://www.jaist.ac.jp/english/laboratory/cs/nguyen.html

Hang, DAO Viet, Clinical Doctor

Hanoi Medical University, Vietnam

Lecturer in Internal Medicine Faculty

Email: daoviethang@hmu.edu.vn

Scholar: https://scholar.google.com/citations?user=qwu8tX4AAAAJ&hl=en&oi=ao