

Curriculum vitae

Personal details

Name Dang Hoang Vu
Date of birth 30 / 12 / 1982
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Current employment

I am currently Chief Scientist at FPT Technology Innovation, the primary unit responsible for technology coordination and research of FPT Corporation (the largest IT firm in Vietnam). As such my role covers a wide range of duties:

- Coordinating research directions and providing supervision for technical progress of R&D projects at FPT Technology Innovation.
- Advising FPT Corporation leadership and its subsidiaries on matters regarding artificial intelligence, data science and their applications in practical contexts.
- Translating actual business problems into technology objectives and aligning R&D projects with business demands.
- Participation in the design, development and sale/deployment of our artificial intelligence products.
- Research and teaching in the area of applied artificial intelligence and data science.

As a rule of thumb I attempt to maintain at least 70% of my time on direct R&D work with product teams such as research, coding and design discussions. My work focuses on the data science and modeling side, using open source tools such as Python/Pytorch/Tensorflow or Scala/Spark/MLlib.

Some highlight of my present and past projects:

- FPT.AI (<https://fpt.ai/>) is the current flagship platform of FPT Corporation in the artificial intelligence market. It offers a suite of services geared towards enterprises, with open APIs for other developers to utilize. The main capabilities on offer are Conversational AI (chatbots and natural language processing), Computer Vision (OCR and face verification) and Speech(recognition and synthesis). All components make heavy use of deep learning models to facilitate scaling in both training data and computing infrastructure.
- E-commerce analytics for multiple subsidiaries of FPT Corporation. In this domain I have worked directly on recommendation, demographic prediction, purchase category prediction and served in advisory/supervisory roles for customer value forecasting, customer lifecycle classification and listing ranking.

- FPT's data management platform is a long-running project to consolidate and leverage both proprietary and publicly available data, with typically open business cases and a high attrition rate. The project has spawned diverse products such as content and user analytics for online media, credit scoring from social alternative data, and social monitoring.
- Healthcare fraud detection for Vietnamese social insurance authority. The project is only six months long but features rather complex interactions between stakeholders: patients, medical providers, insurance authority and FPT Corporation as the IT provider.

As a data scientist, my personal research includes recommendation systems, natural language processing (sentiment analysis, content moderation) and language modeling.

Skills

With 9 years in data science and software R&D, I have professional experience in various aspects of an industrial computing project, such as:

- Problem formulation and elaboration.
- Data mining and machine learning.
- Design and implementation of data science pipelines.
- Algorithm optimization.
- Support for software engineering teams.

My professional activities include:

- Consulting on business applications of AI and data science.
- Research planning and reporting.
- Independent research.
- Coordination and supervision of research projects.
- Validation of concepts and solutions with clients.

Employment history

2014 - current

FPT Technology Innovation Department, FPT Corporation, Hanoi.

Chief Scientist

In addition to consulting and advisory duties, I oversee several data science teams working on the FPT.AI platform, whose functions cover the areas of computer vision, natural language processing and speech recognition/synthesis.

2010 - 2014

HP Autonomy, Cambridge, UK.

Software Engineer

As R&D engineer of a comprehensive image recognition solution (Autonomy ImageServer), I personally worked on various functionalities such as: barcode recognition, scene classification, text detection and multi-frame OCR.

Education

2006 - 2010

University of Cambridge, UK.

PhD in Mathematics.

2005 - 2006

University of Cambridge, UK.

Master of Mathematics.

2002 - 2005

University of Cambridge, UK.

BA Honours in Mathematics.

2000 - 2002 **Bromsgrove School, UK.**
A-level General Certificate of Education.

1997 - 2000 **Hanoi-Amsterdam Secondary School, Vietnam.**
General Secondary Education Certificate.

Awards

2006 **Internal Graduate Studentship.**
Trinity College, University of Cambridge.

2005 **Trinity Studentship in Mathematics.**
Trinity College, University of Cambridge.

2003 **Senior Scholarship.**
Trinity College, University of Cambridge.

2000 & 2001 **Gold Certificate.**
UK Senior Maths Challenge.

2000 **Third Prize.**
Vietnamese Mathematics Olympiad.

Publications

Vu Dang and Zachiri McKenzie. **A permutation method yielding models of the stratified axioms of Zermelo-Fraenkel set theory.** *Proceedings of the 70th anniversary NF meeting in Cambridge, Cahiers du Centre de logique vol. 16, Academia-Bruylant, Louvain-la-Neuve (Belgique), 2009.*

Hoang-Vu Dang. **A single sorted theory of multisets.** *Notre Dame Journal of Formal Logic, vol. 55 no. 3, 2014.*

Hoang Vu Dang. **Feature normalization for similarity calculations in matrix factorization method.** *Proceedings of the 10th International Conference on Knowledge and Systems Engineering. IEEE Computer Society, 2018.*

Liem Hoang and Hoang Vu Dang. **FVI: An End-to-end Vietnamese Identification Card Detection and Recognition in Images.** *Proceedings of the 5th NAFOSTED Conference on Information and Computer Science. IEEE, 2018.*

Dang Hoang Vu, Van Huy Nguyen and Phuong Le-Hong. **Online Adaptation of Language Models for Speech Recognition.** *Progress in Computer Recognition Systems (CORES 2019), Advances in Intelligent Systems and Computing vol. 977, Springer 2019.*