Du Phan

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Research Interests

- Probabilistic programming language, Markov chain Monte Carlo, Gaussian process.
- Deep learning, Reinforcement learning, Bayesian statistics.
- Data science: anomaly detection, risk evaluation, time–series analysis, natural language processing, and many others.
- Kinetic theory, especially Fokker–Planck equations.

Education

- **Pohang University of Science and Technology (POSTECH)** — **South Korea**
  Ph.D. in Mathematics and Data Science — *2013–2018*
- **University of Orléans** — **France**
  M.S. in Analysis of Mathematics and Applications — *2011–2012*
- **Ho Chi Minh City University of Science** — **Vietnam**
  B.S. in Mathematics and Computer Science — *2007–2011*

Honors and Awards

- **Aug 2018:** 3rd place of the *T&B Code Challenge* competition hold by *SKTelecom* with *oksusu & B tv*.
- **Nov 2017:** 14th place (top 2%) of the *Web Traffic Time Series Forecasting* competition on *Kaggle*.
- **Sep 2015–Aug 2018:** *Rotary Club Scholarship*.

Notable Projects

- *POSCO Temperature Prediction*

  Developed algorithms to predict temperature and make recommender systems for POSCO (a multinational steel–making company headquartered in Pohang, South Korea).

- *Enterprise Credit Risk Evaluation*

  Developed an unbalanced binary classification model to predict bankruptcy risk of Korean companies.

- *Lane–Keeping Assist System (LKAS)*

  Developed algorithms to predict the torque configurations needed to keep vehicles in their current lanes.

Technical and Personal Skills

- **Softwares:** Proficient in Python, Matlab, Linux, AWS, LaTeX.
  Experienced in R, C/C++, Javascript, SQL.
- **General Business Skills:** Project planning and management, teamwork, training delivery, presentation skills.
- **Languages:** Vietnamese (native), English (proficient), Korean (basic).

Publication

- *On the Fokker–Planck Equations with inflow boundary conditions.* Hyung Ju Hwang and Du Phan. Quarterly of Applied Mathematics, 75(2), 287–308, 2017.
- *Data Analytic Approach for Bankruptcy Prediction.* Hwijae Son, Du Phan, ChongSeok Hyun, and Hyung Ju Hwang. (submitted)
- *Configuration Detection in Lane-Keeping Assist System.* Du Phan, Hyung Ju Hwang, and Minseok Song. (preprint)

Talks

- **Aug 2017:** *Generative Adversarial Networks* at *The 2^{nd} POSTECH Nonlinear PDE Workshop*.
- **Aug 2016:** *On the Fokker–Planck equations with various boundary conditions* at *POSTECH PDE Seminar*.
- **Jul 2016:** *On the Fokker–Planck equations with inflow boundary conditions* at *POSTECH Nonlinear PDE Workshop*.

Extra–Curricular Activities

- Contribute to open source repositories such as TensorFlow–WaveNet, Nikola, PyTorch, and Pyro.
- Vice President of the *Vietnamese Student Association in POSTECH* during 2014–2015.
- Other hobbies include problem solving (through various websites such as Project Euler, Kaggle, and Analytics Vidhya), taking MOOCs, learning physics, reading, playing chess, badminton, flute.