Chatdanai Lumdee, PhD

-- A lifelong learner. Physicist turned data scientist. Passionate about storytelling and data visualization.

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COMPETENCES:

Data science

- Excellent proficiency in data processing, analysis, and visualization using Python (Jupyter Notebook, Numpy, Pandas, Matplotlib, Seaborn, Plotly, scikit-learn, etc.), Matlab, and Origin
- Knowledge in machine learning, data modeling, and validation
- Working proficiency with big data tools such as SQL (certificate) and PySpark (certificate)
- Example projects (all with Python, most in Thai – click on links to see the projects)
  1) Open Data(Science) Thailand, peeking on government spending
     - Discusses importances of big data and open data and how government plays a key role
     - Presents interactive visualizations of Thailand's government spending with Plotly
     - Encourages learning from data and building government transparency
  2) Idol popularity monitoring using Twitter streaming
     - Illustrates how to use Twitter Python API to stream data
     - Demonstrates process of acquiring and managing streaming data using both Python networking interface and PySpark
     - Provides a demo of how to monitor streaming results in real-time
  3) Building a recommender system with Python
     - Describes the importance and applications of recommender systems
     - Explains the mathematical model behind recommender systems
     - Demonstrates how to create a recommender system with NumPy and Scipy
  4) Introduction to self-organizing map
     - Justifies the importance and use cases of self-organizing map (SOM)
     - Elucidates a working principle of SOM using an example of clustering Pokémon
     - Provides Python code and uses the code to organize countries based on their GDP per capita and income inequality index
  5) Blockchain DIY with Python
     - Justifies the concept and impacts of blockchain technology
     - Illustrates how to build a simple blockchain network
     - Demonstrates how to visualize and to create a more realistic blockchain network with reasonable assumptions
  6) An analysis on average salaries in Thailand by occupation
     - Exploits data from Bank of Thailand to find development of changes in salaries among Thai workers from year 2001 to 2016
     - Extracts underlying trends in transformation of salary growth and spending power among workers from different occupations

Characters and soft-skills

- Detail oriented experimentalist who formulates plan based on theories, observations, and critical thinking
- Great technical writer and presenter (Thai and English) with a proven record of publications in top-tier scientific journals, presentations at international conferences, and knowledge sharing on a personal blog/Medium
- A team player with experiences working in multi-cultural ecosystems
- In love with learning and improving oneself and the team as well as tackling challenges

(Bonus): Expert in optical physics and nanotechnology with both fundamental knowledge and hands-on experiences where have been a guest speaker in several educational institutions.

CAREERS: Data science

Data scientist (Associate visionary architect) 11/2017 – present
KLabs, Kasikorn Business-Technology Group (KBTG) – Bangkok, Thailand

Job description: Apply data science and machine learning techniques with customer data to develop personalized financial services -- for example KADE (K PLUS AI-Driven Experience).

Responsibilities:

- Extract/transform/load data from database using tools such as Impala
- Clean data, explore data and build machine learning models (e.g. look-alike targeting and churn analysis) as well as evaluate a model's performance
- Review models and make plans with other teams within Kasikorn Group to deliver data-driven approaches that improve our services to current and prospective customers

CAREERS: Research (check these links for publications and presentations)

Postdoctoral research scientist 04/2016 – 10/2017
Department of Physics, University of Gothenburg/Chalmers – Gothenburg, Sweden

Research topics: magnetoplasmonics, nanomagnetism

Research description: We are exploring the interplay between nanoscale optics and magnetism with the aim to develop a technological platform for the next generation of data storage units (a European Union's project in EU Horizon2020 program).

Graduate research scientist 08/2010 – 01/2016
CREOL/The College of Optics and Photonics – Orlando, Florida, USA

Research topics: nanophotonics, surface plasmon resonances, gap-plasmons

Research description: I spent my time studying how nanoscale objects and light interact. This research area is the core foundation of several emerging technologies including single-molecular sensing, surface enhanced photocatalysis, and heat-assisted magnetic recording.

EDUCATION

Ph.D. in **Optics and Photonics** 08/2010 – 12/2015
CREOL/The College of Optics and Photonics, University of Central Florida – Orlando, Florida, USA
GPA: 3.95/4.00

B.Eng. in **Nano-engineering** *(major in Nanoelectronics)* 08/2006 – 05/2010
Chulalongkorn University – Bangkok, Thailand
GPA: 3.91/4.00, Graduated with First Class Honors

Please find my website for additional information