Cheng-Pang (Tego) Chang

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*A data scientist with **4+ years of product analytics experience in the high-tech industry**,*

*dedicated to extracting insights from data to **drive product development and formulate business strategies**.*

Education

Duke University, Durham, NC, ***Master of Interdisciplinary Data Science (MIDS)***; **GPA: 3.8/4.0**	**Expected May. 2023**
National Taiwan University, Taiwan, ***Master of Computer Networking & Telecommunication***	Jan. 2011
National Cheng Kung University, Taiwan, *Bachelor of Electrical Engineering*	Jun. 2008

Career Achievement

<u>Led 10+ software engineers to develop data analytics projects</u>, deploy them to production, and provide insights for several teams at the company; Was thus promoted among 20+ managers. Key projects include:

- *Wi-Fi Connection Analytics has* accelerated the support team's debugging process for wireless connection failures.
- *Onboarding Method Analytics* has guided the campaign strategies for the marketing teams.

Work Experience

2nd Order Solutions	Capstone Project@Duke MIDS, USA
Data Scientist – Interpretable Machine Learning	Sep. 2022 ~ Present

- Applied Explainable Boosting Machine (EBM) and Gradient Boost Machine (GBM) for predicting donors in the KDD Cup 1998 dataset and <u>compared the ML models' differences in aspects of performance metrics and interpretability</u>.
- Generalized the interpretable ML pipelines for applying to credit advisory topics in the fintech industry.

TeleSign	USA
Product and Data Science Intern – IoT Risk Prediction	Jun. 2022 ~ Aug. 2022

- Developed a project, *Mobile Auth for Wi-Fi Access*, from scratch, which utilizes Two-factor Authorization (2FA) and machine learning to evaluate the risk of every connected Wi-Fi device.
- <u>Presented the PoC project to the CTO</u> and evaluated the potential business opportunities in the IoT industry.

Foxit Software	Taiwan
Senior Product Manager – Document AI	Sep. 2020 ~ May 2021

- Led a team of software engineers, UI/UX designers, and data scientists to develop, ***iDox.ai***, an AI contract review service.
- Collaborated with external stakeholders to <u>integrate product domain knowledge into the outcomes from ML models</u>.
- Participated <u>DevOps and MLOps process design</u> to ensure the production requirements could be met.

NETGEAR	Taiwan
Software Engineering Product Manager – Wi-Fi Router Analytics	Aug. 2017 ~ Apr. 2020

- <u>Conducted the company's data-driven decision-making process and identified key metrics for the executives</u>, including 1) defined 30% (400+ attributes) of the company's data dictionary 2) designed the corresponding technical specs, 3) led teams to complete spec implementation and verified results, and 4) <u>Visualized the outcome to extract business insights</u>.
- Collaborated with data engineers to <u>troubleshoot issues during the cloud data processing pipeline</u> and verify if the format of each attribute is correct.

SYNOLOGY	Taiwan
Software Product Manager - Wi-Fi Router	Apr. 2015 ~ Jun. 2017

- Translated customers' needs from internal/external channels into roadmaps of software features and UI/UX enhancements, come out with the development plans, and drove teams cross-functionally to meet schedules.
- Delivered <u>30+ technical presentations to executives, technical/non-technical stakeholders, and reseller partners worldwide</u> and ensured product highlights are well-absorbed.

TOPVIEW | *Software Engineer - IP Camera*   Mar. 2014 ~ Mar. 2015, Taiwan
REALTEK Semiconductor | *Firmware Engineer - Wi-Fi ROUTER*   Jun. 2012 ~ Oct. 2013, Taiwan

Projects (GitHub)

An IoT Risk Identification and Prevention Framework – Mobile Auth for Wi-Fi Access

- Calculated <u>risk scores</u> of IoT devices using machine learning and created a <u>risk profile with their 2FA phone numbers</u>.
- <u>Synthesized a Wi-Fi access dataset</u> and labeled it with <u>clustering algorithms and outlier detection</u> packages in Python.

Impact of Superhost on the Annual Revenue of Listings on Airbnb

- <u>Investigated causal effects</u> between a listing's revenue and its host as well as other features in the hospitality industry.
- Performed data wrangling, <u>matching, statistical modeling</u>, and visualization using Python on a geospatial dataset.

Customer Segmentation and Churn Prediction for Payment Transaction Service

- Applied the <u>RFM framework</u> to separate customers into four categories by their engagement and value for the service.
- <u>Identified criteria of the potential churn</u> with Semi-supervised Learning and predicted according to business context.

Personalized Product Recommendation

- Built an <u>online recommendation system</u> to suggest customized items based on a 1M-observation like-unlike dataset.
- Applied <u>Collaborative Filtering</u> to calculate similarity scores among users using Pandas and achieved a 74% accuracy.

Wi-Fi Router Analytics

- Accelerated NETGEAR's remote troubleshooting process on Wi-Fi connection issues by <u>visualizing wireless data with Tableau and extracting insights</u> to stimulate engineering improvement for all Wi-Fi router product lines.

Expertise & Skills

Data Science Machine Learning, Statistical Modeling, Hypothesis Testing, Causal Inference, Deep Learning, Computer Vision, Natural Language Processing, AWS, Azure, Databricks, DevOps, MLOps.

Product Experimentation and A/B Testing, Data Visualization and Storytelling, SaaS, APIs, Tech Spec Design, Product Management, Agile/Scrum Development, UI/UX, Marketing Analytics, GTM, User Growth, SEO.

IoT and Cybersecurity Wireless Communication (Wi-Fi, Cellular Networks), Embedded Linux System, Software/Firmware Development, Two (Multi)-factor Authentication (2FA/MFA).

Programming Python (scikit-learn, PyTorch), R, SQL, C++, C (Embedded Linux).

Tools Tableau, Git, Docker, Google Analytics, Jira, Confluence, Microsoft Office Suite (Excel, PPT).