

Cheng-Pang (Tego) Chang

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.

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Education

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

Experience

2nd Order Solutions	Capstone Project@Duke MIDS, USA
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<i>Data Scientist – Interpretable Machine Learning</i>	Sep. 2022 ~ Present
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- Evaluated the performance of Explainable Boosting Machine (EBM) and Gradient Boost Machine (GBM) in execution duration and interpretability by applying them to a classification prediction problem.
- Validated the practicability of applying EBM to credit advisory topics in the fintech industry by generalizing the model pipeline and interpretation methods.

TeleSign	USA
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<i>Product and Data Science Intern – IoT Risk Prediction</i>	Jun. 2022 ~ Aug. 2022
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- Proposed to the CTO a potential business opportunity in the IoT industry by developing a project from scratch – *Mobile Auth for Wi-Fi Access*, which leverages the company's strength, Two-factor Authorization (2FA), and machine learning to evaluate the risk of every Wi-Fi device.

Foxit Software	Taiwan
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<i>Senior Product Manager – Document AI</i>	Sep. 2020 ~ May 2021
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- Built and released an AI contract review service, *iDox.ai*, by leading a team to collaborate with external stakeholders to integrate legal domain knowledge into the outcomes from ML models.
- Ensured production requirements, e.g., logging and alerting, are met by participating in the design meetings of DevOps and MLOps processes.

NETGEAR	Taiwan
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<i>Software Engineering Product Manager – Wi-Fi Router Analytics</i>	Aug. 2017 ~ Apr. 2020
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- Enriched the company's data dictionary by 30% (400+ attributes) by collecting requirements from diverse stakeholders, designing corresponding technical specs, and leading internal and external teams to complete implementation.
- Verified the correctness of the data by collaborating with data engineers to troubleshoot issues during the cloud data processing pipeline.
- Conducted the company's data-driven decision-making process by visualizing the outcome of the collected data, identifying key metrics, and extracting business insights for the executives of the engineering and marketing teams.

SYNOLOGY	Taiwan
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<i>Software Product Manager - Wi-Fi Router</i>	Apr. 2015 ~ Jun. 2017
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- Managed four major and several minor software releases by defining practical development plans and driving teams cross-functionally to meet schedules.

- Secured products' selling points by delivering 30+ technical presentations to executives, technical or non-technical stakeholders, and reseller partners worldwide.
- Planned software feature roadmaps of and UI/UX enhancements by collecting customers' feedback from diverse channels.

REALTEK Semiconductor | Firmware Engineer - Wi-Fi Router

Jun. 2012 ~ Oct. 2013, Taiwan

Leadership and Awards

- Promoted among managers of 20+ at Netgear for leading 10+ software engineers to develop data analytics projects, deploying them to production, and providing insights for several teams at the company. Key projects include:
 - **Wi-Fi Connection Analytics** has accelerated the support team's remote troubleshooting process for wireless connection failures through the visualization of wireless data.
 - **Onboarding Method Analytics** has guided the campaign strategies for the marketing teams by identifying customers' preferred engagement channels and frequencies.
- Managed 15+ members from R&D, QA, UI/UX, PM, and Marketing teams at Foxit Software and provided direct mentorship to bring **iDox.ai** to the market in six months.

Projects ([GitHub](#))

Impact of Superhost on the Annual Revenue of Listings on Airbnb

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

Customer Segmentation and Churn Prediction for Payment Transaction Service

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

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

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

Personalized Product Recommendation

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

2021 Duke Datathon – Evaluating Democracy Satisfaction of People in Different Countries

- Explored the relationships between democracy satisfaction and factors from demography, economics, and social justice.
- Performed data cleaning, wrangling, and visualization using Python on a 22M-observation survey dataset.

Knowledge and 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).