ALVIN CHIN

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PROFESSIONAL SUMMARY

- Expert Researcher and Data Scientist with experience in leading research and development projects that translate business requirements into tangible software prototypes and products.
- PhD in Computer Science, Masters in Software Engineering and Bachelors in Computer Engineering
- Strong research and innovation skills with 60 publications of research papers in reputable academic conferences and journals and 17 published patents.
- Strong project management and team leadership skills with experience leading teams in industry and professional volunteering organizations such as Association of Computing Machinery (ACM) Chicago Chapter, and Institute of Electrical and Electronic Engineers (IEEE) Chicago Section.
- Strong software engineering and technical skills in machine learning, data science, analytics, statistics and cloud computing

PROFESSIONAL EXPERIENCE

XPO LOGISTICS AND RXO, Chicago, IL   **9/2022 to 6/2023**

Transportation logistics company. RXO was spun off as a separate company from XPO Logistics in November 2022 specializing in freight brokerage, managed transportation, last mile, expedite and freight forwarding.

Principal Data Scientist

- Product Engineering: Led two junior data scientists for developing and implementing index-based pricing algorithm in Google Cloud using Vertex AI, BigQuery, Cloud Function, Cloud Run and Pub Sub, for recommending baseline rates for shipping loads for customers based on index rates like DAT. Delivered first version of index-based pricing to production.
- Project Management: Managed collaboration of data science projects for index-based pricing and customer pricing of loads with stakeholders from Operations team, Pricing team, Data Science team and Engineering team.

BMW GROUP, Chicago, IL; Mountain View, CA; Greenville SC   **4/2015 to 8/2022**

Automotive OEM manufacturer for engineering and building connected, electric and autonomous vehicles.

Innovation Research Engineer, BMW IT Research Center, BMW Manufacturing, Greenville, SC   7/2022 to 8/2022

- Research & Technology Scouting: Explored research into emerging technologies like metaverse, large language models, causal machine learning, and performed technology scouting and innovation.
- Project Management: Led collaboration with UC Berkeley AI Research Lab in causal machine learning, human-centered AI to improve customer driving experience, and human-in-the-loop reinforcement learning for robotic manipulation skills.

AI & Emerging Technology Researcher, BMW Group Technology Office USA, Mountain View, CA   11/2020 to 06/2022

- Research & Technology Scouting: Explored research on causal machine learning and complexity management for managing supply chain, and performed technology scouting and innovation. Mentored two interns on causal machine learning.
- Project Management: Led collaboration with UC Berkeley AI Research Lab in causal machine learning, human-centered AI to improve customer driving experience, and human-in-the-loop reinforcement learning for robotic manipulation skills.
- AI: Evaluated Microsoft Azure AI for democratizing AI to support business analysts and evaluated Microsoft AI Builder for creating AI models to detect damaged car parts. Worked on a 13-week project with 4 international colleagues for predicting failures and suggesting solutions for vehicle diagnostics using NLP.

Senior Machine Learning Researcher, BMW Technology Corporation, Chicago, IL   4/2015 to 11/2020

- Data Mining & Analytics: Analyzed BMW car data using big data analytics and machine learning for learning and predicting destinations and user behavior in BMW Connected. Designed and implemented analytics framework for usage and performance of machine learning features using SQL, Microsoft Azure, Databricks and Power BI.
- Data Science & AI: Built deep learning model for predicting pre-ignitions using Microsoft Azure, Raspberry Pi and Power BI; built neural network and regression models for gas range prediction; created customer EV charging behavior profiles using R and K-medoids clustering; created crowdsourcing application for inferring customer parking behavior using DBSCAN clustering; evaluated bi-logistic regression model for predictive preconditioning which was implemented in production in BMW Connected.
- Coaching & Mentoring: Mentored six interns on machine learning topics dealing with adaptive behavioral patterns using activity data, crowdsourcing parking locations, deep learning for vehicle diagnostics, and improved fuel prediction.
- Innovation: Developed data collection innovations for improved journey management, delivered nine accepted and nine published patents, published six papers in conferences and magazines.

NOKIA AND MICROSOFT, Beijing, China   **7/2008 to 9/2014**

Mobile phone and telecommunications network equipment manufacturer. The phone division of the company was acquired by Microsoft in April 2014 and split from Microsoft in September 2014.

Senior Researcher, Xpress Internet Services, Nokia Mobile Devices, Beijing, China   9/2012 to 9/2014
- Data Mining & Analysis: Improved product by publishing ten patents, one journal paper, and one full conference paper on efficient personalized recommendation of mobile web content from Nokia phones using an Expectation-Maximization-based clustering method.
- Product Management: Guided an agile development release plan as Product Owner for the backend system of Nokia Xpress Now, a content news recommendation platform for Nokia and Lumia phones.
- Research: Coordinated research project with Northwestern Polytechnical University in Xian, China about identifying events using trending keywords in Sina Weibo (Chinese Twitter) - delivered one full conference paper.

Senior Researcher, Nokia Research Center, Beijing, China   1/2010 to 8/2012
- Research & Innovation: Led R&D team of 10 people in Find & Connect, a system for finding rooms and recommending people to connect with from the office and conferences using a weighted-average recommendation algorithm based on physical proximity and homophily. This resulted in 3 patents, 7 workshop papers, 5 conference papers, 4 journal papers and 1 book chapter.
- Concept & Development: Led R&D team of 8 people with development of mobile application for activity-based social networking and connecting people from offline to online, resulting in 1 workshop paper and 1 conference paper.

Research Staff Member, Nokia Research Center, Beijing, China   7/2008 to 12/2009
- Research: Researched Mobile Web 2.0 and social networking technologies for integrating the phone with online and offline social networks, and created technical paper which directed the focus of the lab. Wrote a paper based on analyzing the evolution of a friend mobile social network created from Nokia Friend View, using the cohesive subgroups method (based on social network analysis and k-plex clustering analysis) adapted from PhD work.
- Project Management: Led R&D team of 10 people for Find & Connect, which was deployed in 3 Nokia offices.

TECHNICAL SKILLS
- Programming Languages: C, C++, C#, Java, JavaScript, Swift, Python, Powershell, Scala
- Development Tools: Microsoft Visual Studio and Visual Code, Apple XCode, Anaconda, Jupyter Notebooks, RStudio, PyCharm
- Big Data, Cloud & Databases: Hadoop, AWS, SQL Server, SQL, MySQL, U-SQL, Microsoft Azure, Azure Data Lake Analytics, Azure Databricks, Azure Kubernetes Service, Google Cloud, BigQuery, Google Cloud SQL
- Data Science tools & Platforms: Matlab, SPSS, RStudio, R, H2O.ai, Snowflake
- Machine Learning: Keras, scikit-learn, Tensorflow, Azure Machine Learning, PyTorch, Microsoft AI Builder, clustering, regression, causal machine learning, Google Cloud Vertex AI
- DevOps & AIOps: ElasticSearch, Kibana, Dynatrace, Terraform
- Analytics & Visualization: Microsoft Power BI, ESRI ArcGIS, Grafana, Google Looker

PROFESSIONAL LEADERSHIP & ACADEMIC INVOLVEMENT

ASSOCIATION OF COMPUTING MACHINERY (ACM), Chicago, IL   **1/2020 to Present**
Professional computing society organization.
Senior Member, Chair of ACM Chicago

INSTITUTE OF ELECTRICAL & ELECTRONIC ENGINEERS (IEEE), Chicago, IL   **1/2018 to Present**
World's largest technical professional organization dedicated to advancing technology for the benefit of humanity.
Senior Member, Chair of IEEE Chicago, Chair of IEEE Computer Society Chicago, Chair of Vehicular Tech Society Chicago

DEPAUL UNIVERSITY, Chicago, IL   **1/2019 to Present**
Adjunct Professor, College of Computing & Digital Media

EDUCATION
Doctor of Philosophy (PhD), Computer Science, University of Toronto, Toronto, Ontario, Canada
Master of Applied Science (MASc), Software Engineering, University of Waterloo, Ontario, Canada
Bachelor of Applied Science (BASc), Computer Engineering, University of Waterloo, Ontario, Canada

For list of publications, patents, awards and service, please refer to my extended CV at www.alvinychin.com, click My CV.