# Edwin Ng

📞 916-873-2282  ✉ towinazure@gmail.com  in edwinng-ds  ⬛ edwinnglabs  🔗 edwinng.com

## Technical Skills

**Programming Languages**: Python, R, C++, PySpark, bash, HIVE, MS SQL, C#, Java, HTML, CSS
**Libraries & Software**: PyTorch, TensorFlow, PyStan, Pyro, PyMC3, Tableau, R-Shiny
**Statistics & Machine Learning**: Bayesian statistics, marketing and sales models, multi-armed bandit, forecasting, AutoML, LSTM, RNN, CNN, gradient boosting, random forest LTV models, causal inference, experimentation analysis and design, optimization
**Engineering**: Docker, Git, TravisCI, Jenkins, Hadoop, AWS, Linux

## Experience

### Grocery Science @ Amazon.com Inc                                    San Francisco, CA
*Senior Applied Scientist*                                              *May 2022 - Present*

- Scope out my team tasks as the first and most senior scientist of the team by collaborating with PMs and Eng Managers
- Help team develop the right vision and mission, continuous communication system such as JIRA ticket system and team wiki
- Facilitate ASIN level forecast innovation and inventory planning in various stages such as scoping, modeling, data pipelines, productionization and stakeholders communication
- Host talks and workshops at team-level and org-level on topics such as productionizing scalable forecast, multivariate state-space forecast models, ensemble methods in forecasting and forecasting with casual components etc.

### Uber Technologies Inc                                                San Francisco, CA
*Manager II, Applied Science*                                          *March 2021 - Apr 2022*

- Manage a team of applied scientists to support centralized and scalable data-driven solutions for marketing measurement and growth strategy in various lines of business including drivers, riders, eaters, couriers and restaurants etc.
- Run and grow a team of scientists including setting right vision and mission, mentorship, knowledge hub, sharing sessions, trust building etc.
- Encourage production-level code within marketing science org such as code review and documentation guidance, unit-tests and best-practices discussion with invited speakers
- Host and speak in team-level and company-level talks, workshops and training sessions
- Collaborate with HRs on strategies of hiring and team-building
- Lead scalable customers value (deep-learning) forecast platform as the pillar of return on advertisement spending (ROAS)
- Lead multi-touch attribution (MTA) models to provide impression level actionable insights
- Lead city level channels mixed hierarchical-forecasting models to provide cross-channels optimization strategy
- Lead centralized market level test platform for experimentation design and causal inference analysis using synthetic controls and interrupted time-series techniques
- Lead a time-series modeling platform and package as a general service to support projects such as infrastructure planning, fraud detection and budget planning in operations
- Collaborate with ops and marketers in advertisement bidding algorithms, budget optimization and performance reporting
- Collaborate with engineers to automate machine learning products with version control, monitoring system, data pipelines and dashboards
- Support uplift modeling to drive incremental gross-booking through intelligent targeting
- Support dynamic creatives on digital advertising display optimization through continuous Bayesian multi-arm bandit framework

*Senior Applied Scientist I / TLM*                                      *Jan 2019 – March 2021*

*Applied Scientist I, II*                                               *Jan 2017 – Dec 2018*

### Ten-X.com (formerly Auction.com)                                    Belmont, CA
*Data Scientist*                                                        *Mar 2015 - Dec 2016*

- Improved daily emails open rate by 50% with tree-based uplift model and look-alike algorithm
- Created a predictive model for residential properties valuation to enhance UX
- Designed A/B test for user experience/auction system experimentations

- Built and maintained pipelines and dashboard to monitor auctions performance and predictive models health

**PayPal Holdings, Inc.**                                                                 **San Jose, CA**

*Data Scientist*                                                                          *Mar 2014 - Mar 2015*

- Provided analytics and modeling (random forest) for user acquisitions strategy
- Developed time-series model synthetic control to quantify impact from policy changes in different markets
- Automated pipelines and dashboard tracking PayPal Digital Gift-card(PPDG) store daily performance which generated 5 million plus annual revenue
- Led offshore team daily to provide various analytics for CRM campaigns over 50M+ active users

**Tanius Technology, LLC.**                                                               **Alamo, CA**

*Quantitative Developer*                                                                  *Jan 2013 - Feb 2014*

## Education

**University of California, Los Angeles**

*M.S. in Statistics*                                                                      *Mar 2013*

*M.S. in Financial Engineering*                                                           *Jan 2010*

*B.S. in Mathematics, Economics and Minor in Statistics*                                  *Jan 2009*

## External Influence

### Open-Source Projects

- A python package for Object-Oriented Bayesian Time-Series Models            *Oct 2020 - Present*
  https://github.com/uber/orbit

- Rlgt: Bayesian Exponential Smoothing Models with Trend Modifications        *Jan 2019 - Present*
  https://cran.r-project.org/web/packages/Rlgt

### Public Speech

- KDD 2021, AdKDD "Bayesian Time Varying Coefficient Model with Applications to Marketing Mix Modeling"  *Aug 2021*
  https://www.adkdd.org/2021-papers-and-talks

- The 41st ISF – "Orbit - An Object-Oriented Python Package for Time-Series Models"        *Jul 2021*
  https://isf.forecasters.org

- San Diego State University, MKTG 480 - Marketing Analytics – "Marketing Science Overview @Uber"  *Dec 2020*
  https://youtu.be/tHDgdcy8LVA

- The 40th International Symposium on Forecasting (ISF) – "Probabilistic Forecasting applications in Uber"  *Oct 2020*
  https://youtu.be/LXDpq_iwcWY

- StanCon – "Orbit: Probabilistic Forecast with Exponential Smoothing"        *Aug 2020*
  https://mc-stan.org/events/stancon2020/

### Publications

- Ng, Wang and Dai. "Bayesian Time Varying Coefficient Model with Applications to Marketing Mix Modeling" arXiv preprint arXiv:2106.03322 (2021)
- Ng, Wang, Chen, Yang and Smyl. "Orbit: Probabilistic Forecast with Exponential Smoothing" arXiv preprint arXiv:2004.08492 (2020)

### Other Achievements

- Uber Eng Blog: Introducing Orbit, An Open Source Package for Time Series Inference and Forecasting   *May 2021*
  https://eng.uber.com/orbit/

- Top 10% (Bronze Medal) with Team "CEZ" in M5 Forecasting - Accuracy         *Aug 2020*
  https://www.kaggle.com/c/m5-forecasting-accuracy

- Patent: Recommendation System Associated With an Online Market Place (Filed) AUCT.P040 : 504360126   *May 2017*