# Alvin Qicong Deng

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**EXPERIENCE**

**Discord // Staff Machine Learning Engineer**                                        Sep 2023 – Present
- Acting as the technical lead to build 0-to-1 recommendation systems to boost user engagement
- Building customer support co/auto-pilots with LLM-based retrieval-augmented generations, yielding a 20% lift in customer satisfaction and projecting double-digit % savings from high 7-figure budgets
- Advising various ML/DS/Product teams to curate novel product experiences with ML

**Senior Machine Learning Engineer**                                        Sep 2021 – Sep 2023
- Architected multiple image and video classification/retrieval systems for visual safety (140M+ uploads per day), contributing to a 4x increase in detection volume with 90%+ precision in H1 2023
- Launched the first server home feed and iterated from heuristics to modeling, leading to double-digit % CTR gains
- Gave numerous technical talks and workshops at department and company levels, familiarizing stakeholders with ML product flywheel and literature reviews across various domains (RecSys/Vision/NLP)

**Facet // Machine Learning Engineer**                                        May 2020 – Jun 2021
- Built panoptic segmentation systems to generate content-aware masks for large-scale photo editing
- Launched state-of-the-art color grading and style transfer features by combining cutting-edge deep learning research with classical computer graphics techniques

**SixteenZero // Co-Founder**                                        Nov 2018 – Aug 2020
- Built the ML-based coaching platform for professional Counter-Strike teams

**Drawbridge & LinkedIn // Research Engineer** (Acquired by LinkedIn)                    Jan 2018 – May 2020
- Built the MVP to improve ads re-targeting and attribution for Safari browsers which projected 8-figure ARR
- Experimented with multi-task deep learning models for demographic and lookalike classifications
- Designed a large-scale graph clustering algorithm on web cookies and devices to improve probabilistic identity

**Tenfold // Data Science Intern**                                        Mar 2017 – Jan 2018
- Developed sentence segmentation model for customer support audio transcriptions

**Drawbridge // Data Science Intern**                                        Jun 2017 – Aug 2017
- Implemented field-aware factorization machine to improve CTR prediction

**Vast // Data Science Intern**                                        Jan 2017 – May 2017
- Built page view count and remaining days-on-lot predictions with gradient boosting trees and linear regression

**Twitch // Applied Research Intern**                                        Sep 2016 – Dec 2016
- Researched multi-thread x264 architecture to improve video quality by 23%

**Apple // Machine Learning Engineering Intern**                                        May 2016 – Aug 2016
- Implemented a hyper-parameter search algorithm to improve iteration speed of model selections

**Spredfast // Software Engineering Intern**                                        May 2015 – Aug 2015
- Leveraged Word2vec to build a web app that identifies relationships between hashtags on Twitter

**Activision // UI Engineering Intern**                                        May 2014 – Aug 2014
- Improved in-game UI & mini-maps of Call of Duty Online

**EDUCATION**

**University of Texas at Austin**, M.S. in Computer Science - GPA: 3.9 / 4.0                    May 2022
**University of Texas at Austin**, B.S. in Computer Science - GPA: 3.8 / 4.0                    May 2017

**SKILL**

**Programming Languages**
- Proficient in Python, Java, SQL
- Familiar with Scala, JavaScript/TypeScript, Rust
- Exposure to C++, C, Ruby, HTML, CSS

**Tools & Platforms**
- Linux, Bash, Git, LaTeX, Jupyter, Hadoop, Spark, Beam, AWS, GCP, Azure, TensorBoard, Weights & Biases, HuggingFace Transformers, TensorFlow Serving, PyTorch Serving, Nvidia Triton

**Libraries**
- NumPy, SciPy, Pandas, Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost, LightGBM, NLTK, Matplotlib, Seaborn, Plotly, Dash, Bokeh, Flask, Django