

Jeffrey Cheng

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Academia

Education

Princeton University, *PhD candidate*

Princeton Engineering Doctor of Philosophy in Computer Science 2020 - Present

Integrating machine learning and neuroscience research with Professors Ryan Adams and Sebastian Seung.

University of Pennsylvania, *Jerome Fisher Program in Management and Technology (M&T)*

Penn Engineering Master of Science and Engineering in Data Science 2017-2019
Penn Engineering Bachelor of Applied Science in Computer Science 2015-2019
The Wharton School Bachelor of Science in Business Analytics 2015-2019

Graduated with high honors in the Eta Kappa Nu Honors Society (IEEE-HKN) and a GPA of 3.86/4.00.

Teaching

Lecturer for CIS 700-004: Deep Learning, Philadelphia, PA

Created and taught Penn's first graduate deep learning course, focusing on integrating inductive biases, optimization techniques, and state-of-the-art deep learning frameworks. See course materials at cis700dl.com.

- Created homework assignments on neural net debugging, dog image recognition, and sarcasm detection.
- Supervised 13 deep learning projects, including a Kaggle winner and a SOTA question-answering engine.
- Currently the highest-rated ML course at Penn, by a margin of 11%.

Research

Augmenting Supervised Learning by Meta-learning Local Rules Won best poster at NeurIPS 2019.
Bilingual is at Least Monolingual In review, EMNLP 2020
AI Reasoning Systems: PAC and Applied Methods Whitepaper

Industry

Vise

2020 - present

Machine Learning Engineer, New York, NY

Led the startup's ML initiatives as employee #11.

- Designed the internal data abstractions and implemented the company's automated data pipeline.
- Created the core platform's algorithmic personalization of investment strategies.
- Helped users fulfill fiduciary duties with by building an AI interpretability feature.

Palantir

2019-2020

Machine Learning Specialist, New York, NY

Consulted clients on integrating ML into operations-level decision-making using Palantir Foundry.

- Improved a manufacturing client's demand forecasting by 5%, creating \$1.75MM in supply chain value.
- Contributed to Foundry ML's time-series modeling library; used across several industry verticals.

IBM Watson

Summer 2018

Cognitive ML Engineer Intern, New York, NY

Created Memento: Watson Assistant's time context module. Awarded best-in-class from 243 intern projects.

- Implemented a stacked BiLSTM to disambiguate numeric intents and entities using prior utterances.
- Redesigned the dialog flow architecture to integrate model; reduced mislabeled numbers by 4%.

Selected Projects Comprehensive project portfolio at jeffreyscheng.com

Harmonica.ai

A state-of-the-art music composition AI that integrates inductive biases from musicology with deep learning models. Uses the physics of pitch to understand harmony before composing melody.

Mewtagen

Autocomplete for Pokemon teams: recommends complementary movesets for incomplete teams. Optimizes via an evolutionary algorithm in Python. Winner of the 2017 UPenn CIS Fair.

HQ2toPhilly

Won a competition on pitching tech incentives to build Amazon's HQ2 in Philadelphia. Proposed a JV between AWS, Comcast, and Philly to create the first smart city; **pitch adopted by Mayor Kenney**.

Skills

Technical

General Programming (Java, Python) Data (R, SQL, Spark) Deep Learning (PyTorch, DEAP)

Hobbies

I play saxophone and piano, read low-fantasy, paint in watercolor, and play competitive Pokemon via Smogon. Currently learning about indoor gardening and horticulture.