

# Tanush Goel

## Data Scientist/ML Engineer

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Saratoga, CA

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### Work Experience

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#### MACHINE LEARNING RESEARCH INTERN

Abzooba Inc. | Milpitas, CA | June 2019 - August 2019

- Designed similar image clothing search software for Carter's apparel company
  - Fine-tuned large vision model on industry-size clothing dataset using semi-hard triplet loss
- Developed algorithm to recommend clothing items to users through neural collaborative filtering

#### COMPUTER VISION RESEARCH INTERN

Seattle Children's Research Institute | Seattle, WA | February 2023 - August 2023

- Applied computer vision in CT scans to discover novel phenotypes in knock-out mice
  - Created 3D segmentation and keypoint detection pipeline for organs and craniofacial features
- Contributed to open-source software Splicer for biomedical image visualization and analysis

### Projects/Publications

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#### DRUG DISCOVERY - PHARMACEUTICAL

August 2019

- Iterative process using two ML models to generate the best drug candidates for any virus/target proteins
  - 1st model trained on >1.5 million drug compounds to create new drug-like molecules
  - 2nd model trained on >500k drug-target interactions to predict -log half-maximal inhibitory concentration
- Won 1st place @ HelixHacks → Won 1st place @ Synopsys Science and Technology Championship → State Level
- Commendation by the City of Saratoga with Mayor's Signature

#### RECIPE GENERATION APP - FIREFOODS

August 2020

- Web-scraped 500k+ recipes & fine-tuned GPT2 to create recipes given a name of a dish and/or ingredients
- Used optical character recognition to scan grocery receipts & generate recipes using existing ingredients

#### CHESS ENGINE - AIPIAZERO

January 2021

- Used reinforcement learning (Dueling Double Deep Q-Network) to create an intuition-based chess engine
- Learned chess through self-play, Stockfish/Komodo, and ~3.5M recorded human games
- Improved engine through Neural-Guided Monte Carlo Tree Search (implemented AlphaZero/AlphaGo)

### Education

#### University of Washington (2022-2025)

BS Data Science, Computational Biology

Seattle, WA

#### Certifications/Licenses

Udacity Machine Learning Engineer Nanodegree (July 2019)

Udacity Computer Vision Nanodegree (March 2020)

AWS Certified Developer (June 2023)

### Languages

Python, R, SQL, Java, C++

English, Hindi, Spanish