

Jessica Lee

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EDUCATION

Carnegie Mellon University, School of Computer Science

Expected Graduation: Dec 2021

Bachelor's Degree in Computer Science

GPA: 3.86/4.0

- **Honors:** Goldwater Scholar, Bilbao Scholarship, Dean's List Fall 2018, Fall 2019, Spring 2019, Fall 2019
- **Classes:** 16-385: Computer Vision, 15-463: Computational Photography, 15-445: Databases, 15-859: Algorithms for Big Data

SKILLS

Python, PyTorch, OpenCV, SQL, Java, C/C++, Git, C#, Django, Pandas, scikit-learn

RESEARCH

Video Distillation for Object Detection

March 2020 – Present

- Working with Deva Ramanan and Ravi Teja Mullanpudi on improving the speed-accuracy tradeoff in object detectors by intermittently running a larger, more accurate model, and tracking the detections using a smaller, faster object detection model.

MetaPix: Few-shot Video Retargeting (ICLR '20, NeurIPS Meta-Learning Workshop Oral '19)

December 2018 – 2019

- Working with Deva Ramanan and Rohit Girdhar on applying meta-learning approaches to GANs for the pose to image generation problem, where given a pose, generate an image of a person in that pose
- Showed that meta-learning improves image quality based on generation quality and metrics compared to pretrained weights
- Developed technique to visualize meta-learned representations to diagnose why meta-learning improves image generation

A Longitudinal Evaluation of a Deployed Model for Fire Risk (NeurIPS AiFSG '18)

September 2018 – December 2018

- Presented at NeurIPS AI for Social Good Workshop in Montreal for our accepted workshop paper
- Analyzed the model performance, stability, feature importance over time, and performed a bias assessment on framework

A Dynamic Pipeline for Spatial-Temporal Fire Risk Prediction (KDD '18)

August 2017 – 2018

- Presented at SIGKDD '18 in London for our accepted paper in the applied data science track
- Deployed an interface with the City of Pittsburgh Fire Department to reroute their fire inspection routes to check safety
- Implemented a feature selection algorithm and decreased the complexity of the model by 70%
- Tested stability of XGBoost model, performed post-hoc analysis, and analyzed transitions of properties between risk buckets

PROFESSIONAL EXPERIENCE

Facebook

Menlo Park, CA

Software Engineering Intern

May 2019 – August 2019

- Worked on Marketplace Integrity Content Governance Team to build a ML framework for specialized commerce models
- Experimentally built multimodal models to improve online metrics in catching policy-violating items
- Built data pipelines to create new training data and additional data parameter functionality such as positive to negative ratio

AddisCoder

Addis Ababa, Ethiopia

Teaching Assistant

July 2018 – August 2018

- Assisted in teaching an algorithms course organized by Harvard CS professor to a group of 150 Ethiopian students
- Created homework exercises on basic programming, recursion, sorting, and memoization
- Took on a leadership role to organize a recitation for students who struggle learning in an English lecture

PROJECTS

Machine Learning for Exam Triage (Winner of HackAuton)

April, 2018

- Created an algorithm that detects pneumonia from Chest X-Rays using images and patient history
- Extended ChexNet by appending two fully connected layers after DenseNet, and including a skip connection from the DenseNet to the second layer to encourage gradient flow, in order to add patient history data

WallCal (HackCMU)

September, 2017

- Created an app that parsed picture taken of event posters and automatically added the event to personal calendar
- Implemented the poster capturing script that segmented event posters using OpenCV in Python

LEADERSHIP EXPERIENCE / EXTRA-CURRICULARS

Data Science Club, Previously President

October 2018 – May 2020

- Organized talk for Hadley Wickham, a COPSS award winner and CEO of RStudio engaging campus wide interest
- Planning data science club workshops and organized project teams to help contribute to solving real-world problems
- Improved website design and rebranding of club to help promote events across campus