

# SHUBHANG DESAI

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## EDUCATION

**Stanford University** – B.S. Candidate in **Computer Science**; GPA: **3.86/4.0**; Expected Graduation **June 2020**

- Featured Coursework: Machine Learning (CS 229), Convolutional Neural Networks for Visual Recognition (CS 231n), NLP (CS 124), Computer Vision (CS 131), CS + Social Good Studio (CS 52), Web Applications (CS 142), Design Thinking Studio

## SKILLS

**Languages:** Python, C/C++, Swift, JavaScript, Java; **Machine Learning:** PyTorch, Keras, TensorFlow, NumPy, Pandas, OpenCV  
**Web Dev:** ExpressJS, AngularJS, Node.js, jQuery, HTML/CSS; **Mobile:** Android SDK, iOS/Swift; **Databases:** MongoDB, MySQL, Postgres

## WORK EXPERIENCE

**Machine Learning Intern – PayPal, Summer 2018**

- Tested **state-of-the-art NLP** models in production-ready environments using GPU-optimized TensorFlow
- Developed **deep learning framework** in Python that will be used to develop, test, and deploy models across the org

**Deep Learning Educator – deeplearning.ai, Summer 2018–Current**

- Work with Dr. Andrew Ng to help democratize AI education
- Create educational content on deep learning and iterate through drafts, survey target audience to create better content

**Machine Learning Intern – NASDAQ, Summer 2017**

- Singlehandedly designed, developed, and tested entire architecture of neural network for predictive market behavior model
- Presented research to NASDAQ executives, authored internal whitepaper; was **featured on Times Square Billboard** for project

**Research Fellow – IDEO CoLab, January 2017**

- Was technical lead of interdisciplinary team tasked with designing future connected market solutions using Blockchain
- Prototyped three business models in nine days, delivered product prototypes to IDEO

## ACADEMIC EXPERIENCE

**Research Assistant – Stanford Artificial Intelligence Lab (SAIL), Fall 2017–Current**

- Lead deep learning project in Dr. Andrew Ng's lab to detect deep vein thrombosis (DVT) in ultrasound images
- Lead interdisciplinary team of computer scientists and radiologists from Stanford Medical School
- Experiment with different CNN architectures, iterate based on experiment analysis; **manuscript in progress**

**Teaching Assistant – Stanford University, Spring 2017-Fall 2018**

- **Computer Vision (CS 131)**, develop material on Deep Learning and Computer Vision, guide students through assignments
- **Deep Learning (CS 230)**, lead weekly review section of lectures, create lab activities for student group
- **AI + Social Good (CS 21si)**, Founded and co-taught class on applying AI to social issues, created material on neural networks

## PROJECTS

**Arbitrary Neural Style Transfer** - Novel convolutional neural network architecture that can instantly transfer the style of any painting onto a picture; end-to-end training of the architecture was the *first time the feat had ever been achieved on this task*

**Lung Cancer Detection** - Developed convolutional neural network pipeline to segment lung nodules and detect cancer in CT scans

**Krikos** - Barebones neural network micro-framework which can be used to learn about deep learning: `pip install krikos`

## TECH LEADERSHIP

**Vice President – Stanford Artificial Intelligence Group (SAIG), 2017-Current**

- Oversee SAIG Tech Ed officers, organize speakers and hackathons, mentor AI project teams, plan and teach AI workshops

**Teaching Team Member – CS + Social Good Studio (CS 51), 2017-2018**

- Created teaching content and structure as part of Curriculum team, taught Design Thinking methods in class

## WRITINGS

- **Article on style transfer** for "Artists & Machine Intelligence" blog, #1 hit on Google for "neural style transfer": [tinyurl.com/ami-nst](https://tinyurl.com/ami-nst)
- **Article on basics of neural networks** for "Towards Data Science" blog: [tinyurl.com/tds-NNs](https://tinyurl.com/tds-NNs)
- **Personal blog** where I write blog series & code tutorials on deep learning: [shubhangdesai.github.io/blog](https://shubhangdesai.github.io/blog)