

Tushar Pankaj

+1-858-212-9947 • tushar.s.pankaj@gmail.com • tspankaj.com
Citizen of United States & Canada

Education

University of Minnesota – Twin Cities

BS, Computer Science

Cum. GPA: 3.78/4.00, Major GPA: 3.78/4.00

Minneapolis, MN

2018–2019

University of California, Berkeley

Electrical Engineering and Computer Science

Cum. GPA: 3.81/4.00, Major GPA: 3.95/4.00

Berkeley, CA

2015–2016

Work Experience

Facebook

Software Engineer

Cambridge, MA

Jan 2020–present

Facebook

Software Engineer Intern

Cambridge, MA

May 2019–Aug 2019

- Improved insights into in-house mobile networking stack behavior by building network request logging library for Facebook mobile apps
- Substantially improved debuggability of mobile networking stack by cleaning up old, poorly designed code
- Delivered 50 KiB of Android APK size reductions on Facebook Messenger for Android through code cleanup and optimization
- Delivered 1% improvement in app start-up time on Facebook for Android by experimenting with network stack queuing behavior

Facebook

Software Engineer Intern

Menlo Park, CA

May 2018–Jul 2018

- Designed, trained, and wrote production code to serve up new machine learning model in News Feed
- Ran online experiments and analyzed the performance of new News Feed model
- Built internal tool to parse and display News Feed ranking configuration file in a human readable and searchable manner
- Added new features to existing internal tool for understanding of online impact

Qualcomm CDMA Technologies

Systems Engineer Intern

San Diego, CA

May 2017–Aug 2017

- Deployed multitude of deep learning algorithms to improve upon traditional camera designs and capabilities
- Worked on image regression using convolutional neural networks
- Helped design multi-resolution approach to improve on luma and chroma noise and color tone for different ISOs
- Migrated team to Amazon AWS deep learning training infrastructure
- Taught lecture on deep learning to 100+ software and systems engineers across the company

Qualcomm Research

Software Engineer Intern

San Diego, CA

May 2016–Aug 2016

- Designed and implemented high performance logging of 4K video on Qualcomm Snapdragon Flight platform
- Designed and implemented signal processing algorithms for fully automated flight test system
- Wrote device driver for RS-485 protocol to actuate motors on a mobile robot
- Worked on Qualcomm Hexagon DSP bringup on new board for flight control

Research Experience

Berkeley DeepDrive

Undergraduate Research Assistant

Berkeley, CA

Jan 2017–Sep 2017

- Researched use of LSTM and other recurrent neural network architectures for autonomous driving
- Adapted SqueezeNet convolutional neural network architecture from image classification to autonomous driving
- Optimized convolutional neural network training codebase to achieve 10x speed-up

Patents

- Hwang, Hau, Tushar Pankaj, Vishal Gupta, and Jisoo Lee. 2017 (pending). "Image Signal Processor for Processing Images."

Publications

- Chowdhuri, Sauhaarda, Tushar Pankaj, and Karl Zipser. "MultiNet: Multi-Modal Multi-Task Learning for Autonomous Driving." In *2019 IEEE Winter Conference on Applications of Computer Vision (WACV)*, pages 1496–1504. IEEE, 2019.

Technical Skills

Proficient: C • Assembly (ARM, AArch64, x86, MIPS) • C++ • Java • Python • Git • Mercurial • Linux • Bash • HTML • \LaTeX

Skilled: SQL • PHP • MATLAB • OCaml

Familiar: Scheme • Android • JavaScript • CSS • React • Subversion • MongoDB