

Neil Patil

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Portfolio: neilpatil.me
github.com/patil215

EDUCATION

B.S. in Computer Science - University of Texas at Austin **2016 - 2020**

Turing Scholars Honors Program

GPA: 3.92

Coursework: Computer Security (graduate), Robot Learning (graduate), Operating Systems, Computer Architecture, Low Speed Aerodynamics, Modern Physics, Vector Calculus, Machine Learning, Data Mining, Computer Graphics

EXPERIENCE

Production Engineering Intern - Facebook **Summer 2018**

- Developed a tool to automate efficiently allocating, swapping, and tracking hardware capacity between datacenter jobs
- Built FaceTune, which generates a unique ringtone for every user on Messenger based off of their facial features vector

Software Engineering Intern - Google **Summer 2017**

- Moved Android's one-tap device setup feature to a more secure and reliable Bluetooth + NFC network protocol
- Implemented secure handshake using the SPAKE protocol, and worked with security teams to roll out to all Android devices

Software Engineering Intern - Atlassian **Summer 2016**

- Created a automated Spring/MySQL framework to monitor quality and reliability of user feedback data

Software Engineering Intern - Indeed **Summer 2015**

- Created a Javascript + regex system to auto-fill job applications using a resume, deploying it within the Indeed iOS app

PROJECTS

Autonomous Drone (neilpatil.me/doc/drone_paper.pdf) **September 2017 - January 2018**

- Research project using robot learning to train a drone to autonomously navigate using a depth map (Python & C++)
- Trained drone in simulation using ROS + Gazebo + Tensorflow to implement DDPG (Deep Deterministic Policy Gradients)

Battlecode 2018 - Finalist (github.com/patil215/battlecode-2018) **February 2018**

- Developed a low-level computationally efficient bot for MIT's game AI competition, placing 9th internationally

LASACTF Computer Security Contest - Co-Creator (lasactf.com) **Jan 2016 - April 2016**

- Let team of 10 to create an online computer security CTF competition with 5000+ competitors worldwide

Other Projects (neilpatil.me) **2013 - present**

- Robot trash and recycling sorter, reminder app with 20k+ downloads, water alarm clock, and more

ACTIVITIES

UT Robocup@Home Team, UT Building-Wide Intelligence Lab **January 2018 - present**

- Member of UT's Robocup@Home research team, training a Toyota HSR robot to sort and store groceries on a cupboard
- Wrote the majority of the robot's manipulation and navigation logic using ROS, Gazebo, and smach (Python & C++)
- Research team placed 5th against other universities in the international Robocup@Home competition last June

Information Systems & Security Society - Co-President **April 2017 - present**

- Lead a team to create university-wide CTF competitions, with problems ranging from web exploits to reversing to networking
- Compete and place in national CTFs under the team name "Steam Locomotive", give talks on security concepts

SKILLS

Languages/Frameworks: Python, C++, C, ROS, Java, UNIX/Bash, some Verilog

Tools/Libraries: Arduino, SQL, Kali Linux suite (nmap, Wireshark, etc), Git, some AWS, Thrift/Protobuf

Concepts/Skills: network security, embedded programming, vision, hardware prototyping (SolidWorks, 3D Printing, etc)