Neil Patil

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github.com/patil215
neilpatil.me

EDUCATION

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

Turing Scholars Honors Program   (g) = graduate-level course

Selected Coursework: Robot Learning (g), Natural Language Processing (g), Physical Simulation (g), Systems Security (g), Cybersecurity Law (g), Computer Graphics, Machine Learning, Network Security, Operating Systems

EXPERIENCE

Engineering Intern - Ike Robotics   **Summer 2019**
- Ike is building autonomous long-haul trucks, with the goal of automating interstate highway freight
- Developed software and operational process to quickly and robustly calibrate all vehicle cameras with a minute-long log
- Implemented improvements to localization and evaluation infrastructure for running localization tests in simulation

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**
- Migrated Android's one-tap device setup feature to a more secure and reliable Bluetooth + NFC 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 AND RESEARCH

Big Wave Shoulder Surfing (neilpatil.me/doc/surfing.pdf)   September 2018 - Present
- Research project using surveillance cameras + computer vision / graphics to steal information being handwritten

UTCTF Computer Security Contest - Lead (isss.io)   Jan 2018 - March 2018
- Led team of 12 to create an online computer security (CTF) contest with 4000+ competitors worldwide

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

Other Projects (neilpatil.me)
- Automatic recycling machine, location-based reminders app, grade-checking app, smart dorm room, various websites

ACTIVITIES

Information Systems & Security Society - President   April 2017 - present
- ISSS is UT's cybersecurity org. Our goal is to improve the knowledge, culture, and diversity of the security community
- Lead a team to create and compete in national CTFs, with problems ranging from web exploitation to reversing to networking
- Give presentations teaching members common security concepts (SQL injection, port scanning, binary exploitation, etc)

UT Robocup@Home Team, UT Building-Wide Intelligence Lab   January - September 2018
- Worked on training a Toyota HSR robot to sort and store groceries on a cupboard for the Robocup@Home contest
- Wrote robot's manipulation and navigation logic using ROS, Gazebo, and smach, team placed 5th internationally

SKILLS

Languages/Tools: C++, Python, Java, C, Javascript, Git, AWS, SQL, Protobuf, Kali Linux suite (nmap, Wireshark, etc), UNIX
Concepts: rapid prototyping (Arduino, CAD, 3D printing), network security, graphics, vision, camera calibration, webdev