


Ishaan Thakur

CONTACT INFORMATION	Email: it233@cornell.edu Web: ishaanthakur.github.io	LinkedIn: linkedin.com/in/ishaanthakur Github: github.com/ishaanthakur
EDUCATION	Cornell University <i>M.Eng., Electrical & Computer Engineering (Early Admit)</i> <i>B.S., Electrical & Computer Engineering; Minor, Computer Science (GPA: 3.7)</i> Relevant Coursework: Algorithms, Systems Programming (TA), Machine Learning, Operating Systems, Networks, Data Structures, Optimization Theory, Applied Logic, Image Processing	Ithaca, NY Exp. Dec 2021 Exp. Dec 2020
PROFESSIONAL EXPERIENCE	On Pepper LLC <i>Software Engineering Intern - Voice Experience Team</i> <ul style="list-style-type: none">Created an Enterprise Knowledge Graph for fund asset data using sentence segmentation, parsing dependency trees through NER, and relation/predicate extraction via spaCy's rule-based matching.Developed a chatbot for managing multiple user queries and internal app plugins via DialogFlow, MongoDB; ran A/B tests on 100+ users which recorded retention rate for voice search engagement.Added authentication services to the Asset Analysis platform for handling multiple login requests. TestAIng.com <i>Software Engineering Intern - Machine Learning Team</i> <ul style="list-style-type: none">Designed and implemented a custom neural-net model (CNN with BERT embeddings) capable of performing slot filling and intent classification task on user search queries with 97% accuracy.Evaluated interpretability of text classifiers and setup testing frameworks to audit ML models. ESnet, Lawrence Berkeley National Lab <i>Software Engineering Intern - Scientific Network Team</i> <ul style="list-style-type: none">Built a dashboard capable of collecting service quality metrics, monitoring network security and allowing real-time debugging on the network packets received from telemetry adapters.Improved High Touch Services for Network engineers using Node and React. Impact: Improved rendering speed by 10x; added support for 100 Gbps data transfer and packet features filtering. Swarm Robotix LLC <i>Software Engineering Intern - Sensor Software and Controls Team</i> <ul style="list-style-type: none">Successfully designed a localization system for autonomous mobile robots in ROS using C++.Implemented visual SLAM with distributed formation control for mapping unknown environment.Used Dynamic Window Approach Algorithms to improve existing pathing implementation by 67%.	New York, NY May 2020 – Aug 2020 Jun 2020 – Jul 2020 May 2019 – Aug 2019 May 2018 – Jul 2018
RESEARCH EXPERIENCE	Autonomous Systems Lab, Cornell University <i>Undergraduate Research Assistant</i> <ul style="list-style-type: none">Collaborated with PhD students on developing a robust MATLAB GUI capable of receiving beacon information and range estimation over WiFi from a robot platform with an accuracy of 89%. WaggleNet, University of Illinois at Urbana-Champaign <i>Undergraduate Research Assistant</i> <ul style="list-style-type: none">Built a data-logger in Arduino that reads and displays data from various sensors in a mesh network with an accuracy of more than 95%.Added features such as user mocking and OAuth single sign-on to the website for secure user login.	Ithaca, NY Sep 2018 – Nov 2018 Champaign, IL Mar 2018 – May 2018
PROJECT HIGHLIGHTS	Over-the-Air Deep Learning Based Radio Signal Classification <ul style="list-style-type: none">Implemented a 6-layer Residual Neural Network in PyTorch to classify time-series data, obtained from measuring signals with low-SNR, into one of 10 modulation types with ~ 60% accuracy. React Weather App  <ul style="list-style-type: none">Developed a RESTful web app in React using OpenWeatherMap API that displays the current weather information of the queried location, storing data with Firebase.	
PROGRAMMING EXPERIENCE	<i>Languages:</i> Proficient: Java, C++, Python Familiar: C, JavaScript, HTML, CSS, Go, Verilog <i>Tools:</i> Git, L ^A T _E X, Cloud (AWS, Firebase), Databases (MongoDB, InfluxDB, MySQL), Web (Node.js, React, Express, Angular, WebSocket), Machine Learning (Keras/TensorFlow, PyTorch)	
AWARDS + INVOLVEMENT	Dean's List; Top 10% Kaggle in-class ML competition (2020); Second Place, Cornell Robotics Competition (2019); First Place, ECE Pulse Design Competition (2018); Top 5 teams, Northwestern Hackathon (2017); ACSU (2018 – Present); IEEE (2017 – Present)	