

# Niharika Jhingan

**Technologies:** Python (including TensorFlow 2 & PyTorch) • Swift • R • Javascript • React Native • Git • Latex

## EDUCATION

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**Brown University - Majors:** *Computer Science and Linguistics*

Expected graduation date: May 2021

GPA: 3.84/4.0 (Calculated from letter grades)

**Computer Science Coursework:** Language Processing in Machines and Humans, Deep Learning, User Interfaces and User Experiences, Computer Systems, Statistical Inference I, Computational Linguistics (current)

**Linguistics Coursework:** Typology (Syntax), Pragmatics, Psycholinguistics, Sociolinguistics, History of the English Language, Phonology, Corpus Linguistics, Independent Research

**Grants:** Research at Brown Grant (Fall 2020), Undergraduate Teaching and Research Award (Spring 2021)

## WORK/RESEARCH EXPERIENCE

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**Brown University LUNAR Lab, Brown Language and Thought Lab, Providence**

MAY 2020 - PRESENT

*Undergraduate Researcher*

I am working on a Natural Language Understanding project with professors Ellie Pavlick and Roman Feiman, exploring pragmatic reasoning and implicatures. This includes:

- Understanding how humans generate alternatives for deriving implicatures, and how these can be computationally modelled and generated.
- Designing and running several studies to investigate the structure of alternatives (using Amazon Mechanical Turk).
- Exploring the use of BERT and GPT-2 for predicting alternatives given a context.
- Presented at the Brown Unconference, and submitted a poster to the Brown Summer Research Symposium.

**Brown University Human-Computer Interaction Lab, Providence**

JANUARY 2019 - JUNE 2020

*Undergraduate Researcher and Developer*

I worked on SleepCoacher, a mobile app that enables users to choose experiments, tracks user sleep data daily, and makes recommendations based on the data collected. The SleepCoacher mobile application can be found on the App Store.

- Worked on the design and development of the iOS app. I used Swift and Firebase for the app implementation.
- Helped launch the first non-beta version of the iOS application, along with multiple subsequent updated versions.
- Collaborated on a study with veterans to investigate how they can use the application to improve sleep habits.
- Conducted user interviews with veterans using the application to find helpful features and areas for improvements, and worked on thematic analysis of interview transcripts and diary logs, and data analysis of metric data.

**8fit, Berlin**

JUNE 2019 - AUGUST 2019

*Mobile Developer Summer Intern*

I interned as a mobile developer at 8fit, a health and wellness application.

- Worked in react native to develop features for both the iOS and Android applications.
- Utilized different libraries and elements like hooks, sound, animation etc.

**Brown University Computer Science, Providence**

AUGUST 2018 - DECEMBER 2018

*Undergraduate Teaching Assistant*

I worked as an undergraduate teaching assistant for an introductory CS course in functional programming. I was involved with course development, grading, holding TA hours and lab hours. In Racket and OCaml.

## OTHER PROJECTS

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### Grammatical gender assignment in code-switched speech

AUGUST 2020 - PRESENT

I am working on an independent project with professor Masako Fidler on how grammatical gender is assigned in code-switched speech with a gendered embedded language.

- I am exploring the morphophonological features of intraword code-switching, and designing a research study to explore this phenomenon in Russian, Czech and English.
- I am also analysing learner and bilingual corpora of code-switched speech.

### Neural vs Symbolic Models

MARCH-MAY 2020

I worked in a group on a comparative analysis of the ability of symbolic and neural models to detect grammatical acceptability.

- We implemented a simple symbolic parser and an LSTM model trained on the Penn Treebank.
- We then compared their accuracy in detecting grammatical acceptability using the Corpus of Linguistic Acceptability (CoLA) dataset.

### Hating on hate speech

NOVEMBER-DECEMBER 2019

I collaborated on a group project to make a hate speech detector. We built an LSTM model trained on a dataset of comments from an online hate community forum to detect instances of hate speech (Pytorch).

## LEADERSHIP AND ACTIVITIES

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### Women in Computer Science (WiCS), Providence

SEPTEMBER 2017 - PRESENT

*Mentor and General member*

I am a mentor to 2 female-identifying students in the CS department. I offer guidance with course selection, research opportunities, navigating the department etc.

### Brown University Meiklejohn Program, Providence

AUGUST 2020 - PRESENT

*Student Leader*

I am a mentor to five incoming undergraduate students from the class of 2024. I help with issues concerning academics, career plans, student life and general information about Brown.

### Brown University Alma Salsera, Providence

SEPTEMBER 2017 - PRESENT

*Social Chair and Performance Team Member*

I am a part of the Brown University Salsa Performance team, and performed at SalsaFire 2019 - a Salsa social hosted by our club. As social chair (August 2018- May 2020), I was in charge of planning social events, and working with students and community members during our weekly Salsa lessons.

### Brown Center for Language Studies (CLS), Providence

SEPTEMBER 2019 - MAY 2020

*Language Ambassador*

I worked to organize events to encourage language learning at Brown. I helped start weekly Language Open Hours, to facilitate improvement by conversation with fluent speakers.

## SKILLS AND INTERESTS

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**Other Technical Skills:** HTML/CSS, Markdown, React.js, Sketch, Proto.io, Adobe XD

**Languages:** English (Fluent), Hindi (Fluent), German (Intermediate), Russian (Basic), Czech (Currently learning)

**Interests:** Learning languages, Conducting interviews, Baking, Salsa, Jazz, Playing the trumpet