

# NIHAL KUMAR SINGH

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## EDUCATION

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MS in Computer Science, **Georgia Institute of Technology, Atlanta** 2019 - Present  
Bachelor's of Technology, **Indian Institute of Technology, Bombay**, CGPA: 8.74/10.00 2015 - 2019

## EXPERIENCE

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**Language Modeling of Code-Switched text** *IIT Bombay | Microsoft Research* Dec '18 - May '19

- Created *MovieCS*- a **conversational code-switched Hindi-English text corpus** extracted from movie scripts.
- Released **benchmark language modeling performance**, synthesized text using **linguistic theory** based methods.

**Mercari Inc., Tokyo- Android Team** *Software Development Internship* May '18 - Jul '18

- Deployed the listing templates feature on **Mercari's Android App**, the **largest C2C marketplace in Japan**.
- Implemented the **Model-View-Presenter (MVP)** architectural paradigm with TDD principles.
- Received a **return offer to join full-time**, based on my performance as an intern.

**Google Summer of Code** *MovingBlocks- Terasology* [Official Blog] May '17 - Jul '17

- Developed *Lost*- an adventure-based gameplay mode for Terasology, an **open source voxel-world like Minecraft**.
- Created game elements with **game-physics, Entity Component System & Behavior Trees** using **Java and LWJGL**.

**Google Summer of Code and Google Code-In Mentor** *MovingBlocks- Terasology* '16, '17, '18 and '19

- Mentored the multi-world and the L&S Capture The Flag project in **GSoC '18 and '19**. **GCI mentor since '16**.
- Nominated to represent the organization at the **GSoC '18 Mentor Summit** held in **Sunnyvale, CA**.

## PROJECTS

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**NeurIPS 2018 Pommerman Challenge** *Reinforcement Learning Course Project* [Report] Fall '18

- Investigated several strategies for multi-agent learning; used imitation learning approaches on the Pommerman platform.
- Designed agents based on **Deep Q-Learning from Demonstration** and **Proximal Policy Optimization**.

**Voice Conversion** *Machine Learning Course Project* [Report] Spring '18

- Built a pipelined approach to convert one person's voice into another by mapping waveform to phonemes and back.
- Proposed an **RNN based deep learning approach** with extensive experimentation using **GRU and LSTM** cells.

**InstiApp** *Open Source, IIT Bombay* <https://insti.app> Jan '18

- Led the ideation and development of InstiApp- the app for students of IIT Bombay, consisting of the RESTful API, Angular Progressive Web App and the Android App. **10K+ downloads on PlayStore** and **5K+ daily active users**.

**Secure Authenticated Fast Exams Application** *R&D Project* <http://safe.cse.iitb.ac.in/> Fall '16

- The SAFE project facilitates **online tests** where **multiple devices concurrently connect** to a Wireless Access Point.
- Built the user performance analysis and visualization feature for the **SAFE Android application**.

## ACHIEVEMENTS

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[2019] **Smart India Hackathon-** Grand Prize winner

[2017] **Ubisoft Game Jam-** Winner

[2017] **Yahoo! Japan hackathon-** Yahoo! Prize

[2017] **Digital Ocean Campus Champ-** Finalist

[2016] **Microsoft Code.Fun.Do-** Runner Up

[2015] **Lenovo Game Jam-** 2nd Place

## COURSEWORK

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Machine Learning, Reinforcement Learning, Graphics, Computer Vision, Algorithms, Networks, Operating Systems

## POSITION OF RESPONSIBILITY

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**Web and Coding Club, IIT Bombay** *Manager* Apr. 2016 - Mar. 2018

- Led a team of 22, as part of one of the biggest college technical clubs in India, to conduct hobbyistic programming activities- Organized multiple talks, workshops and competitions. Awarded the **Institute Organizational Color award**.

## MISCELLANEOUS

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**Sports:** Football, Running, Swimming, Table Tennis

**Interests:** Music, Gaming, Videography, Traveling