

NIHAL KUMAR SINGH

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EDUCATION

MS in Computer Science, **Georgia Institute of Technology, Atlanta**, GPA: 4.0/4.0 Aug '19 - Dec '20
Bachelor's of Technology, **Indian Institute of Technology, Bombay**, CGPA: 8.74/10.00 2015 - 2019

EXPERIENCE

Amazon - Sustainability Technology (Seattle) *Software Development Engineer III* Oct '22 - Present

- Architected terabyte-scale distributed systems that underpin Amazons path to Net-Zero 2040, enabling auditable, reproducible carbon measurements across billions of environmental records with regulator-grade correctness.
- Led an org-wide data lake modernization effort towards Apache Iceberg, redefining storage layout, simplifying ingestion semantics, cutting footprint from 600 TB to 10 TB (60) and speeding up query latency from minutes to seconds.
- Designed a novel branching and data-lineage framework for impact computation, enabling delta processing of only the changes across versioned methodologies comprising of different impact calculator models and environmental impact facts.
- Drove the deprecation of legacy pipelines and the consolidation of distributed workflows across sustainability domains, eliminating systemic failure modes, improving reliability by 10%, and reducing infrastructure costs by \$1.26M annually.
- Established an AI-assisted development workflow using agents for TDD-style test generation, rapid implementation, and iterative code review. Combined with a monorepo-architecture to pull in dependencies together allowing for massively reduced cycle times and improved engineering velocity.

Amazon - IN Personalization (Seattle) *SDE Intern / SDE I* Summer '20 / Feb '21 - Oct '22

- Developed and architected recommendation strategies for displaying personalized content to customers on Amazon.in.
- Worked on a system to detect low-speed users in poor connectivity areas and serve them with a lite/faster experience.

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

- Built and deployed listing-templates on **Mercari's Android App**, reducing seller effort and speeding up item posting across **Japans largest C2C platform**.
- Learned and applied modern architectural paradigms like MVP (Model-View-Presenter), pairing them with TDD to deliver well-tested, maintainable features.

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**. Represented the organization at the **GSoC '18 Mentor Summit** held in **Sunnyvale, CA**.

ACHIEVEMENTS

[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

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

POSITION OF RESPONSIBILITY

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

Interests: Meditation, Hiking, Running, Progressive Rock Music