Ishav Sohal

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EDUCATION

University of Toronto   Toronto, ON
Honors BSc. in Computer Science + PEY Co-op | GPA: 3.65/4.0   *Sept. 2020 – April 2026*
Awards:
Dean's List Scholar (2021-2022, 2022-2023, 2023-2024): Cumulative GPA of 3.5 or higher
Entrance Scholarship: Merit for being one of University's most outstanding/academically accomplished new students

EXPERIENCE

Software Developer   May 2024 – August 2025
Environment and Climate Change Canada   *North York, ON*
- Built an **Equipment Reservation Platform** using **React, Express** and **Prisma**, resulting in a **44% decline in erroneous reservations** and **saving 3+ hours a month**
- Designed **Shared Asset System** to prevent duplication of asset files, resulting in **30% decrease** in product size
- Built **Admin Upload Component** to promptly/securely upload zipped products, **saving 2+ hours a month**
- Conducted major refactor of large **Vue** & **TypeScript** codebase to **eliminate decoupling** and store vital data in **Pinia stores**, leading to faster performance and fewer bugs

PROJECTS

Bitly | *Docker, Redis, Cassandra, Python, Flask*
- Built distributed URL shortener using **Docker Swarm, Cassandra, and Redis**, with **1000 req/s throughput**
- Deployed **Redis primary–replica architecture** as LRU cache, leading to **42% decrease** in GET latency
- Deployed a **3-node Cassandra cluster (RF=2)**, enabling persistent, horizontally-scalable, fault-tolerant storage
- Implemented **Writer–Logger stack** using **Redis streams** to asynchronously process PUT requests, **reducing perceived write latency by 37%**

r/Place | *AWS, Redis, Python*
- Built a **WebSocket API Gateway** to handle real-time client connections, disconnections, and board updates
- Built **NAT gateway** to allow private Lambda functions secure outbound internet access
- Built **HTTP API Gateway** to send current board state to new users
- Used **SQS** to decouple board updates from **DynamoDB** persistent storage, **improving throughput by 29%**
- Utilized **ElastiCache** to store the latest board state and track active users

FaceVote (DeerHacks 2023) | *Python, TypeScript, MongoDB, Flask, React*
- Built an identity verification pipeline using **React Webcam** and **imagehash** to compare user's face and government issued id, achieving **80% accuracy**
- Designed **RESTful APIs** to injest/persist voting data in **MongoDB**, supporting **real-time vote aggregation**
- Developed live voting results dashboard using **Chakra UI** and **Chart.js** with **sub-second update latency**

CarbonTrack | *Python, TypeScript, MongoDB, Flask, React Native, iOS*
- Engineered features for **Carbon-tracking metrics**, leading to a **21% improvement in carbon footprint**
- Implemented **RESTful API endpoints** to ensure seamless communication between frontend and backend server
- Designed **Data Models** to ensure data integrity and reliable formatting when sending/receiving data end-to-end
- Implemented **Recommendation Feature**, providing users with recommendations based on consumption habits

TECHNICAL SKILLS

Languages: Java, Python, C/C++, HTML/CSS, JavaScript, TypeScript, SQL
Technologies/Frameworks: Vue.js, Express, React.js, Pinia, Prisma, Flask, Node.js, npm, .NET
Cloud/DevOps: AWS (Lambda, DynamoDB, ElastiCache), Docker, Cassandra, Redis, Postman, GitHub Actions
Developer Tools: Git/GitHub, Linux, VS Code, Visual Studio, Bash, Figma, Trello