

Mark Chen

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EDUCATION

University of Ottawa

B.Sc in Computer Science, Data Science Option, French Immersion

Ottawa, ON

Expected 2027

EXPERIENCE

Information Technology Intern

June 2022 – June 2024

Ontario Science Centre

Toronto, ON

- Developed a visitor tracking system to analyze data for **over 2.8 million users**, enabling real-time insights into user behavior, engagement patterns, and traffic sources.
- Managed admission and sales systems, maintaining accuracy and efficiency in point-of-sale operations
- Delivered detailed presentations and technical demonstrations, explaining the functionality and mechanics behind advanced technology, such as the IMAX Theatre
- Leveraged niche technologies including Unity for immersive visual demos and Kafkaesque data pipelines for real-time event processing and enhancing scalability in high-traffic environments.

TECHNICAL SKILLS

Languages: Java, Python, SQL (PostgreSQL, MySQL), JavaScript, Dart, HTML, CSS, R, .NET

Frameworks: Flutter, React, React Native, Node.js, Flask, Spring, Material-UI, Next.js, Solidity

Developer Tools: Git, Docker, Firebase, Solace, Kafka, Google Cloud Platform, VS Code, IntelliJ, Eclipse, Figma

Libraries: pandas, NumPy, Matplotlib, TensorFlow, PyTorch, Redux, BeautifulSoup, OpenAI, Gemini, Claude

Certifications: DELF B2 French Proficiency, Standard First Aid with CPR-C, WHMIS

PROJECTS

Focusify (uOttHack 7 WINNER) | *Starknet, Cairo, Ethereum, Next.js, React, Tailwind CSS*

- Led frontend development and smart contract integration for an app designed to facilitate event-based focus groups, educational sessions, and competitive environments using the Starknet blockchain.
- Engineered seamless interactions between smart contracts to enable secure and transparent participation.
- Won **\$1000** in the Starknet Challenge (2025) at uOttHack, recognizing innovation in leveraging Layer 2 blockchain technology for productivity and education use cases.

AirMnM | *PostgreSQL, Supabase, React, Vite.js, Tailwind CSS*

- Implemented secure authentication and API integration using Supabase, enabling role-based access for staff and customers across multiple hotel locations.
- Created archive automation and conflict prevention logic using PostgreSQL triggers, reducing booking errors by **95%**.
- Optimized frontend development speed by integrating Vite and TypeScript, reducing build times by **40%** compared to traditional bundlers.

Ciena Challenge - 2024 Hack the Hill Winner | *Java, Python, Docker, React, Next.js*

- Developed a decentralized peer-to-peer (P2P) file sharing application by distributing file chunks across nodes.
- Utilized Spring Boot for backend services, SSH tunnels for secure server communication.
- Awarded **\$500** for the P2P file chunking challenge.

NBC Bull or Bust | *React (Next.js), Express.js, Spring, Prisma, MongoDB*

- Designed and developed a cross-platform multiplayer trading game to promote financial literacy.
- Utilized AI models and randomization algorithms to generate fresh news scenarios, ensuring high replay value and variability in user experiences.
- Built a dynamic leaderboard system that tracks player performance across sessions, encouraging competitive engagement and repeat usage.

Event Attendance Management System | *Android Studio, Java, Kotlin, Python, Firebase, Figma*

- Designed and developed a cross-platform multiplayer trading game to promote financial literacy.
- Utilized AI models and randomization algorithms to generate fresh news scenarios, ensuring high replay value and variability in user experiences.
- Integrated user authentication and role-based access control, increasing data security and preventing unauthorized edits for **100%** of restricted users.