

# DHRUV AGARWAL

Chicago, IL 60612

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## EDUCATION

### University of Illinois Chicago

Chicago, Illinois

*Master of Science in Computer Science; GPA: 3.77/4.0*

*May 2024*

- **Coursework:** Distributed Systems, Object-Oriented Languages, Query Processing in Database Systems, Neural Networks

### Vellore Institute of Technology

Vellore, India

*Bachelor of Technology in Computer Science; CGPA: 8.6/10.0*

*June 2021*

- **Coursework:** Software Engineering, Data Structure and Algorithms, Operating Systems, Computer Networks
- **Electives:** Business Analytics, Lean Startup Management, Statistical Analytics for Business Research, Marketing Management

## TECHNICAL SKILLS

**Languages:** C++, Python, TypeScript, JavaScript, C#, SQL, Scala, Ruby, GraphQL

**Web Technologies & Frameworks:** React, Next.js, Node.js, HTML, CSS, Tailwind CSS, Django, Flask

**Databases:** MongoDB, PostgreSQL, MySQL, Firebase, Apache Cassandra, Elasticsearch, Redis

**Tools & Platforms:** Docker, Kubernetes, Kafka, Git, AWS, GCP, Azure, Postman, Jenkins, CI/CD, REST APIs

## EXPERIENCE

### UIC Business

Chicago, Illinois

*Technology Associate*

*June 2024 – Present*

- Engineered custom third-party Zoom Rooms Controllers using C++ SDK, improving video conferencing setup time by 50%.
- Implemented low-level APIs to establish bi-directional communication between custom applications and Zoom Rooms, achieving 95% feature parity with first-party controllers.

*Graduate Assistant*

*Jan 2023 – May 2024*

- Spearheaded automation projects using MS PowerApps and Power Automate, reducing on-boarding time by 75%.

### Competent Electric Company

Kota, India

*Software Engineer*

*June 2021 – July 2022*

- Developed and maintained a full-stack sales and inventory management system, leveraging Java Spring Boot for the backend, Hibernate for ORM, and Thymeleaf for the frontend, ensuring seamless integration and efficient data handling.
- Optimized data retrieval processes by refactoring complex SQL queries in MySQL, achieving a 40% improvement in query performance and reducing database load.
- Implemented automated testing frameworks using JUnit, enhancing code reliability and coverage. Integrated the testing suite with Jenkins for continuous integration and delivery, enabling streamlined deployment through Docker containers.

### YA Ventures

Delhi, India

*Software Engineering Intern*

*May 2020 – July 2020*

- Spearheaded chatbot integration on company homepage, reducing customer response time by 40% using DialogFlow and Firebase.
- Optimized chatbot training process, resulting in a 25% increase in user engagement and successful query resolution.

## PROJECTS

### Distributed Systems Simulator | Scala, Akka, Distributed Systems

- Architected a scalable simulator for distributed algorithms including Snapshot, Wave, and Election, using Scala and Akka.
- Leveraged Akka's Actor model for concurrent computation, improving system performance.
- Developed a menu-driven program to execute 8 distributed algorithms on various network topologies.

### Co-Edit | TypeScript, React, Tailwind, Node.js, PostgreSQL, Docker

- Built a real-time collaborative document editing tool, supporting simultaneous editing by up to 10 users.
- Engineered user authentication and version control system using Node.js and PostgreSQL.
- Containerized the application with Docker, ensuring consistent deployment across environments.

### Assembly Language Interpreter | C++11

- Developed an interpreter for Simple Assembly Language (SAL), implementing a virtual machine with 32-bit word-addressable memory.
- Designed and implemented core components including accumulator register, program counter, and special-purpose bits.

### Pacman | Unity, C#

- Recreated the classic Pacman game with modern graphics and additional features using Unity and C#.
- Implemented AI-driven ghost behavior and designed multiple levels with increasing difficulty.

## EXTRACURRICULAR

- **Published** – “Posture And Activity Analysis For Patients In Rehabilitation” in *International Journal of Scientific & Technology Research*, Volume 9, Issue 10, October 2020. ISSN 2277-8616.
- **Leadership** – AIESEC VIT Team Lead for Outgoing Global Volunteers and Outgoing Global Entrepreneurs department.
- **Volunteer** – Academic Support Volunteer with Becoming I foundation and National Service Scheme in local schools for underprivileged children.