

DR RITU ARORA

FULL STACK DEVELOPER | DEVOPS ENTHUSIAST | SCIENTIFIC SOFTWARE DEVELOPER

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linkedin.com/in/ritu-arora-dr | github.com/RituArora-DevOps | [Web Portfolio](#)

PhD in Computational Science transitioning into tech with self-taught DevOps skills and recent Full Stack Developer training. Developed foundational experience in CI/CD, cloud services, and web technologies through project-based learning and a college-level full stack course. Passionate about solving complex problems and contributing to agile teams through continuous learning and hands-on development.

Seeking Internship or Employment starting Oct 6, 2025.

TECHNICAL SKILLS

LANGUAGES: Java, C#, Python, Shell scripting

BACKEND: Spring Boot, NodeJS, Express.js, PHP, Next.js (API routes)

FRONTEND: React, HTML5, CSS3, JavaScript, Next.js, JavaFX (JavaFXML), Bootstrap, Tailwind CSS, PHP

DATABASES: MySQL, Microsoft SQL Server, PostgreSQL, MongoDB (NoSQL), JPA, Entity Framework

HOSTING / DEPLOYMENT: AWS and Azure Cloud Services, XAMPP, Vercel, Render, cPanel, InfinityFree

DEVSECOPS TOOLS: Docker, Kubernetes, Helm, Jenkins, Ansible, Terraform, OWASP, SonarQube, Trivy

CLOUD: AWS (EC2, S3, RDS, IAM, AWS CodeBuild, AWS CodePipeline, EKS, Elastic Load Balancer), Azure Cloud Services (Virtual machines, SQL Database, Blob Storage), GCP (Basic)

OTHER TOOLS: Postman, JUnit, Javadoc, Git, Linux, JIRA, Agile, Scrum, Trello (Kanban)

PROJECTS

Car Rental Management System

[GitHub](#) | [Demo](#) | [Live Site](#) | [Presentation](#)

A full-featured web app for booking and managing car rentals with user authentication, vehicle listings, and admin controls. **Tech Stack:** *Node.js, Express.js, MySQL, Bootstrap, Render*

Day Care Management System

[GitHub](#) | [Live Site](#) | [Presentation](#)

Secure multi-user platform to manage children's profiles, educator dashboards, and class assignments.

Tech Stack: *Slim 4, MeekroDB, Twig, Bootstrap, MySQL, Monolog, Deployed to AWS EC2 upon demand*

Personal Portfolio Website

Responsive portfolio built with Laravel to showcase projects, skills, and achievements, with localization and accessibility. **Tech Stack:** *Laravel, Blade, SCSS, Bootstrap, JavaScript, Render*

Movie Explorer Web App

[GitHub](#) | [Live Site](#) | [Presentation](#)

Server-side rendered movie app with search, filters, favorites, Google OAuth, and TMDB API integration.

Tech Stack: *Next.js, React, NextAuth.js, MongoDB, Tailwind CSS, TMDB API, Vercel*

Online Store System

[GitHub](#) | [Presentation](#)

JavaFX shopping app with Spring Boot REST API, product browsing, cart, orders, reviews, and payments. *Designed using SOLID principles and design patterns like Singleton, Strategy, and Factory for modularity and maintainability.* **Tech Stack:** *JavaFX, Spring Boot, Spring Security (Future Enhancement), REST APIs, PostgreSQL/MySQL, JPA, Maven, Docker*

PROFESSIONAL EXPERIENCE

Postdoctoral Scientist, Concordia University, QC

Mar 2019 - Feb 2022

- Conducted postdoctoral research in computational science, applying multi-scale modeling, molecular docking, MD simulations, and QM/MM methods to study enzyme inhibition and protein-protein interactions.
- Contributed to computer-aided drug design (CADD) by developing mechanistic models of biochemical function using quantum simulation tools.
- Took initiative to automate simulation workflows using Python and shell scripting, creating scripts for launching simulations, logging results, and visualizing output with Matplotlib/Plotly.
- Built a lightweight web app and REST API to monitor simulation status and visualize results, integrating Python, SQLite, and containerization with Docker for reproducibility.
- Actively participated in lab life and mentoring; co-authored publications and presented research at international conferences.
- These experiences sparked a growing interest in full stack development, system automation, and building scientific software solutions.

Assistant Professor, University of Delhi, India

Jan 2016 - Dec 2017

- Taught Introduction to *Python and IT Skills for Chemists*, designing and delivering curriculum for diverse learners
- Created hands-on coding exercises to build practical programming skills
- Conducted computational science research in molecular modeling and simulations
- Collaborated with multidisciplinary teams bridging academia and industry

EDUCATION

AEC Full Stack Developer | John Abbott College (JAC), Montréal, QC

Sep 2024 - until Sep 2025

Full-time French Program | Centre d'éducation des adultes, LaSalle, QC

May 2022 - April 2023

Doctor of Philosophy in Computational Science | University of Delhi, India

Oct 2012 - Jun 2017

Thesis title: Density Functional Theory - Mechanistic Studies on Some Important Organic Rearrangements

Master of Science | University of Delhi, India

Jul 2010 - May 2012

Bachelor of Science | University of Delhi, India

Jul 2007 - May 2010

CERTIFICATES & AWARDS

Earned **AWS Cloud Security Foundation Certificate 2024**

Named to the **Dean's List for Academic Excellence** at JAC

ADDITIONAL INFORMATION

- **Languages:** English, French, Hindi, Punjabi.
- **Work Eligibility:** Permanent Resident of Canada - legally authorized to work in Canada.
- **Computational Chemistry, Molecular Modelling and Chemical Informatics related tools:** Several years of hands-on experience working on different softwares such as Gaussian 09, Materials Studio, Schrödinger, VMD/NAMD, Hyperchem, ArgusLab, Babel, ChemDraw.
- **Scientific Publications:** Contributed to 12 peer-reviewed publications in international scientific journals. Link to ResearchGate: <https://www.researchgate.net/profile/Ritu-Arora-8/research>.