

# Suchith Sridhar Khajjayam

[suchicodes.com](https://suchicodes.com) | [suchi@suchicodes.com](mailto:suchi@suchicodes.com) | [linkedin.com/in/suchithsridhar](https://linkedin.com/in/suchithsridhar) | [github.com/suchithsridhar](https://github.com/suchithsridhar)

## EDUCATION

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### Dalhousie University

*Bachelor of Computer Science*

Halifax, CA

*Expected April 2025*

- **GPA: 4.27 / 4.3**
- Achieved an A+ in all Computer Science classes.
- Completed advanced courses: Algorithm I & II, Advance Data Structures, Compact Data Structures, Machine Learning, Deep Learning, Deep Reinforcement Learning, NLP with Deep Learning.

## EXPERIENCE

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### Research Assistant

*Faculty of Computer Science, Dalhousie University*

May 2024 – Present

*Halifax, CA*

- Developed an Intrusion Detection System (IDS) dataset and testing framework.
- Specialized in AWS Virtual Private Cloud (VPC) setups for scalable cybersecurity test beds.
- Gained in-depth knowledge of network principles and architecture essential for IDS implementation
- Conducted research on machine learning techniques for network defence and attack, working toward paper publication.
- Created a testing framework utilizing Terraform to build dynamic network environments for IDS system evaluation and data generation.

### Teaching Assistant

*Dalhousie University*

August 2024 – December 2024

*Halifax, CA*

- Instructed classes for 60+ students in CSCI-3151 Foundations of Machine Learning.
- Provided hands-on support for CSCI-2122 Systems Programming lab sessions.
- Collaborated with professors to refine course materials and improve student outcomes.

### Associate Software Engineer (Co-op)

*Introhive*

September 2021 – April 2022

*Fredericton, CA*

- Resolved multiple high-priority bugs, enhancing application stability.
- Acted as a full-stack developer, bridging team components.
- Wrote critical internal documentation to enhance team knowledge sharing.
- Assisted in the quality engineering of product releases.
- Delivered solutions for key project stories based on client needs.

### Freelance Developer

*Isla Technologies & Fredericton Legal Advice Clinic (FLAC)*

March 2022 – October 2022

*California, USA & Fredericton, CA*

- Designed and implemented software solutions tailored for multiple clients.
- Customized website UI to enhance user experience and investment appeal.
- Developed a web-based appointment booking system and administrative management interfaces.
- Handled system administration, including server setup, deployment, and maintenance.

## CERTIFICATION & AWARDS

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### Deep Learning Specialization

August 2024

Issued by *DeepLearning.AI* and *Coursera*

- Certificate: [coursera.org/verify/specialization/7TH40JVCOKLZ](https://coursera.org/verify/specialization/7TH40JVCOKLZ)

### Undergraduate Summer Research Award (USRA)

May 2024 – August 2024

*Dalhousie University*

*Halifax, CA*

- Research with Dr. Qiang Ye, working on Intrusion Detection Systems (IDS) in Network Security.

### Dean's List Scholarship

September 2022 – April 2025

*Dalhousie University*

*Halifax, CA*

## LEADERSHIP & VOLUNTEERING

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### Founder & President

September 2023 – April 2024

*Dalhousie Linux Society*

*Halifax, CA*

- Established the Linux Society to foster learning and collaboration in open-source technologies.
- Grew membership to over 60 active participants.
- Organized workshops and events promoting Linux and open-source development.

## PROJECTS

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### Suchicodes Website | *Go, Python*

June 2021 – Present

- Personal portfolio to showcase professional achievements.
- Hosts and organizes detailed lecture notes accessed by hundreds of students.
- Synchronize between multiple servers to create a personal cloud service for compute and storage.
- Migrating the codebase from Python to Go with web-sockets for better inter-server synchronization.

### Compact DNA Data Structures | *C, C++*

September - December 2024

- Developed compact data structures to store DNA sequences, facilitating fast operations such as MEM finding and counting occurrences.
- Implemented FM-Index, Move Table, Burrows-Wheeler Transform (BWT), and R-Index.
- Collaborated with a team to build cutting-edge bioinformatics technologies and worked toward publishing a research paper.

### Intrusion Detection Framework | *Python, Terraform, AWS*

May 2024 – Present

- Built a modular network simulation framework for generating IDS training datasets.
- Integrated support for machine learning models to automate detection evaluations.

### Auto-diff System | *Python, Numpy*

January 2025

- Developed a lightweight automatic differentiation system inspired by PyTorch.
- Designed a computation-graph framework enabling seamless network definition and differentiation.

### Rebuilding Git | *Java*

January 2022

- Created a version control system inspired by Git to track file changes.
- Implemented features such as commits, merges, and branches.

## TECHNICAL SKILLS

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**Languages:** C, C++, Python, Go, Java, JavaScript, Ruby, Terraform

**Frameworks:** Flask (Py), React.js (JS), Node.js (JS), Echo (Go), Fiber (Go)

**Developer Tools:** Git, Bash, GitHub, Linux, AWS, Terraform

**Libraries:** Pandas (Py), Numpy (Py), Tkinter (Py), PyTorch (Py), Keras (Py)