

Suchith Sridhar Khajjayam

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EDUCATION

Dalhousie University

Bachelor of Computer Science

Halifax, CA

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

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 – April 2025

Halifax, CA

- Instructed classes for 60+ students in CSCI-3151 Foundations of Machine Learning.
- Taught CSCI-3110 Algorithms tutorials, supported student learning, and aided in assessment.
- 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

Deep Learning Specialization

Issued by DeepLearning.AI and Coursera

August 2024

- Certificate: coursera.org/verify/specialization/7TH40JVCOKLZ

Undergraduate Summer Research Award (USRA)

Dalhousie University

May 2024 – August 2024

Halifax, CA

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

Rosetti Award

Dalhousie University

March 2025

Halifax, CA

- Recognized for highest academic standing among 4th-year BCS students.

LEADERSHIP & VOLUNTEERING

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

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.

Shakespeare GPT | *Python, PyTorch*

March 2025

- Implemented a GPT-style language model from scratch, including custom Transformer architecture and training loop.
- Trained on Shakespearean text using a Byte Pair Encoding (BPE) tokenizer with a 4,000-token vocabulary.

TECHNICAL SKILLS

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)