

# SWATHI S BHAT

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## Education

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### University of California Santa Barbara, CA

Sept 2023 – June 2025 (Expected)

*Master of Science in Computer Science*

GPA: 4.0/4.0

**Coursework:** Advanced Operating Systems, Program Analysis, Runtime Systems, Future User Interfaces

**Teaching Assistant:** Theory of Computation and Automata, Human Computer Interaction

### National Institute of Technology Karnataka (NITK), Surathkal, India

July 2015 – May 2019

*Bachelors of Technology in Information Technology*

GPA: 9.1/10

**Coursework:** Information Assurance and Security, Operating Systems, Data structures and algorithms

## Technical Skills

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**Languages:** Python, C#, C++/C, Typescript

**Tools & Technologies:** React, Git, Visual Studio, Azure Data Explorer, PowerBI, T-SQL, Powerapps Component Framework, Microsoft Dynamics 365, .NET framework, Azure DevOps, Linux, Kernel Programming, FUSE

## Experience

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### Microsoft

July 2019 – July 2023

*Software Engineer 2*

*Bangalore, India*

- Contributed to Dynamics 365 Customer Service SaaS offering with **1.75M+** monthly users and **\$1B+** revenue.
- Developed a single-tab experience for simplified data entry during case creation using React. This eliminated the need for screen navigation and brought down the number of clicks from **14 to 3** per case operation.
- Developed several data aggregation, visualisation tools and dashboards using Azure Data Explorer and PowerBI for viewing adoption and usage related metrics.
- Spearheaded **100% support call reduction** for scheduling feature, optimizing customer experience.

### Indian Institute of Technology, Madras

Aug 2018 – Dec 2018

*Research Intern, Supervisor: Prof. Shweta Agrawal*

*Chennai, India*

- Implemented a secure auction protocol using verifiable proxy oblivious transfer and garbled circuits, synthesizing insights from two seminal papers. Crafted efficient bit-slice auction logic, ensuring robustness and performance.

### Fidelity Investments

May 2018 – July 2018

*Software Engineering Intern, Brokerage Technology Group*

*Bangalore, India*

- Architected a trade notifier PoC leveraging Apache Kafka, replacing a mainframe system.
- Influenced stakeholders to embrace Apache Kafka for trade notifications, achieving remarkable persistence, fault tolerance, and **sub-13ms** latency while processing 11,000 trade records.

### Indian Institute of Science

May 2017 – July 2017

*Summer Research Intern, Supervisor: Prof. Y Narahari*

*Bangalore, India*

- Used Gambit to implement an algorithm to find the optimal allocation of experts to cyber-security alerts by modeling the scenario as a Stackelberg security game.

## Projects

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**AltFileSystem** | C, FUSE, Operating Systems

- Built a fully functional Linux filesystem from scratch using FUSE (FileSystem in Userspace) library along with the capability to mount and unmount the filesystem.

**ImgCrypt** | Python, Cryptography, Encryption Schemes

- Implemented a symmetric image encryption scheme based on a research paper. The algorithm used a combination of substitution and transposition techniques using dynamic SBOX and TBOX.

**Bees swarm optimization guided by data mining techniques for document information retrieval**

- Engineered a novel method for document information retrieval using the efficient pattern-count tree structure along with bee swarm optimization.

**ThePulse** | Bash

- Built a commandline news reader tool in Bash that displays news headlines with options to archive and display genre specific news.

## Activities

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**Computer Society, IEEE-NITK Student branch:** Co-head of theoretical computer science interest group

**Capture the Flag (CTF) :** Member of CTF team with peak ranking of **19** in India

**Carnatic classical music:** Trained senior level vocalist