

# Sudhan Chitgopkar

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## EDUCATION

### University of Georgia

Aug 2019 - May 2023

(B.S) Computer Science, (B.A) International Affairs

GPA: 3.98/4.00

**Recognitions:** Dean's List, Presidential Scholar, TEDx Speaker, UGA Summer Research Fellow

**Awards:** Outstanding CS Undergrad (top 0.3% of class), Gold Presidential Service Award

## EXPERIENCE

### Amazon

May 2022 – August 2022

Software Engineering Intern

Seattle, WA

- Created an serverless application to automate server load-shedding on \*.amazon.com's data-store
- Developed an AWS Lambda in Java to interface with CloudWatch monitoring APIs, analyzing system duress
- Decreased system duress notification time by >90% by automating AWS SNS to page customer's on-call

### Southern Company

May 2021 – May 2022

Technology Solutions Intern

Atlanta, GA

- Analyzed DNS, IP, and WhoIs data on 280+ cases to identify a threat actor causing \$1.2M+ in damages
- Briefed the Assistant US Attorney's office, FBI, Secret Service, and 7+ utility partners on data patterns
- Designed and developed a dashboard for documentation version control of 50+ nuclear software applications

### University of Georgia

Aug 2020 – Dec 2021

Teaching Assistant

Athens, GA

- Assisted 35+ students with Theory of Computation coursework 3 times per week
- Taught and solved problems involving finite automata, decidability, and Turing machines

Research Fellow

- 1/30 students awarded a grant to conduct 340+ hours of intensive, faculty-mentored research
- Derived a mathematical model for Bayesian Network data tuning using DNA sequencing algorithms
- Implemented a Bayes inference model in C# and Java using Infer.NET

## LEADERSHIP & INVOLVEMENT

### SolveUGA

Aug 2022 – Present

Founder, President

Univ. of Georgia

- Founded UGA's flagship computational problem-solving team with 150+ members and 2 faculty
- Leading weekly discussions on algorithmic complexity and optimization problems
- Solving and teaching various toy-problems in computer science and math to undergrad and grad students

### Small Satellite Research Lab

Apr 2021 – Present

Software Engineer

NASA Ames

- Developing core flight software in C++ using NASA F' for low-earth-orbit cube satellite, MEMESat-1
- Automating satellite command-execution-testing using Python, telemetry libraries, and ground station APIs

### UGAHacks

May 2021 – May 2022

Director

Major League Hacking

- Led 7 undergrads in garnering \$30,000+ in funding to host UGA's flagship annual hackathon
- Coordinated with 50+ representatives across 14 companies to host 12+ workshops over 48 hours

## PROJECTS

### JADE | C, C++, OpenGL, SDL

Jan 2022 – Present

- Developed a graphics engine from scratch with support for 2D and 3D rendering
- Used for mathematical visualization of fractal generation, modular multiplication, and cellular automata

### WikiViz (HackGT 9 Winner) | JavaScript, P5.js, APIs

Oct 2022

- Visualized internal connections between Wikipedia articles using an interactive 3D undirected graph
- Available for usage at [sudhan.dev/wikiviz/html](https://sudhan.dev/wikiviz/html)

### Evolutionary Playground | Python, DEAP

Aug 2021 – Dec 2021

- Developed a series of evolutionary computation programs to solve optimization and root-finding problems
- Solved various NP-complete (i.e. n-Queens) and NP-hard (i.e. Traveling Salesman) problems

### Swarm Sense | Java, Processing, Python, Jupyter Notebook

May 2018 – May 2020

- Created a genetic algorithm from scratch to breed competitive co-evolution in Boid flocks
- Conducting data analysis on flock performance using Jupyter Notebook

## TECHNICAL SKILLS

**Languages:** Java, C/C++, Python, BASH, PHP, SQL, HTML + CSS, Javascript

**Frameworks/Libraries:** Bootstrap, SDL, DEAP, Processing, P5.js, OpenGL

**Dev Tools:** AWS Lambda, DynamoDB, Emacs, \*nix Systems, Shell, Figma, Git, L<sup>A</sup>T<sub>E</sub>X, CI/CD