

# Kinshuk Phalke

+1-(404)-519-7018 | phalkekinshuk@gatech.edu | linkedIn/kinshukphalke | github/xinslu | kinshukphalke.com

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## EDUCATION

### GEORGIA INSTITUTE OF TECHNOLOGY BACHELORS OF SCIENCE IN COMPUTER SCIENCE

Atlanta, GA | Aug 2021-Dec 2024  
GPA: 4.0

**Coursework:** Data Structure and Algorithms, Honors Discrete Math  
**Clubs:** GreyHat (CyberSec Club), dependently-typed (Programming Language Club)

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## WORK EXPERIENCE

### NOTITIA | SOFTWARE ENGINEER

Atlanta, GA | Nov, 2021 -

- Working with Full-Stack and NLP in building a MVP for a startup at Georgia Tech.
- Built a LDA model in Python and worked with tuning UMAP parameters and implemented a clustering algorithm using FAISS. Worked on UI of a WordCloud using React Flow.
- Optimized the Frontend, Backend and Flask server, cutting time in Frontend by 60% and 40% in MongoDB and Backend.

### NATIONAL UNIVERSITY OF SINGAPORE | STUDENT RESEARCHER

Singapore | Apr 2019-Dec 2019

- Created a Machine Learning app to accurately estimate calories required by a person at a certain time to control food waste.
- Researched and devised relations between Ghrelin, the hunger hormone, and calories required by accounting for factors like BMI, Diet Regime and Food Schedule. Used this data and relationship to train the machine learning model.
- Followed Design Thinking principles in ideation and in designing the core principles of the idea. Worked intensively on User Experience and on Logo Design by creating prototypes on Adobe XD and photoshop.
- In the Final Competition, presented the app to the judges in Singapore and won the Best Presentation Award.

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## PROJECTS

### DEUSCL

RUST, COMMON LISP

A Memory-Efficient, Memory-Safe and Fast REPL that implements Common Lisp and is built using Rust. Implementing a Recursive Descent Parser and building an Abstract Syntax Tree to represent code and expressions. Working on implementing a Garbage Collector.

### PUBLIXMON

MONGODB, EXPRESS.JS, REACT NATIVE, NODE.JS, FLASK,

Using a deep neural network, OpenCV, React Native, Flask, Node, and Solidity (to create NFT smart contracts), Publixmon creates an engaging social experience for retail shoppers. Users' purchase history is turned into unique, collectibles that can be traded with other users to earn savings and turn local stores into communities. Project Won the First Place at the NCR API Challenge at HackGT 8.

### TWITAKE

MONGODB, EXPRESS.JS, REACTJS, NODE.JS, PYTHON, NLP, TWITTERAPI

A full-stack fake disaster tweet analysis tool that uses TwitterAPI to extract the text from the tweet link and data processing tools like lemmatization, tokenization, N-Grams, Stop Words, removal of punctuation, and a TD-IDF based Logistic Regression NLP model with a 81% accuracy.

### MENTAL HEALTH CHAT

REDIS, DOCKER, MONGODB, EXPRESS.JS, REACTJS, NODE.JS, SOCKET.IO

A timed chat for people to share and talk about issues their having in relation with their mental health and help them overcome it. A message in the Redis database is set to expire in about 6 hours in order to encourage people to come out and discourage users calling each other out. Created a Dockerized App with a Redis Instance during development.

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## RESEARCH

### IMPACT OF AIRPLANE CONTRAILS & AVIATION POLLUTION ON ENVIRONMENT

A research project to build a device that can monitor the pollution levels in the atmosphere mapping out hot spots and then aiming at decreasing pollution at these sites by attaching a special filter to the airplanes which out decrease the thermal trapping capacity and the increase the efficiency of the fuel to decrease the greenhouse gasses released.

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## SKILLS

**Languages:** Python, JavaScript, HTML/CSS, Java, C, C++, C#, Bash, Rust, AWK, Solidity

**Web & App Development:** ReactJS, Expressjs, Node.js, Flutter, Ionic Framework, React Native, Socket.IO, Redux, ReactFlow, Web3.js

**Machine Learning:** NumPy, Scikit-learn, Open AI Gym, Matplotlib, Pandas, Keras, NLTK, Gensim, FAISS, UMAP

**Technologies:** Git, MATLAB, Docker, Postman,  $\LaTeX$ , SQL, MongoDB, Redis, Kubernetes, Blockchain

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