

# Jaegook (Alex) Kim

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## EDUCATION

**Georgia Institute of Technology**, Atlanta, GA Aug 2023 - May 2025

Master of Science in Computer Science (Concentration: Machine Learning)

- Courses: Algorithms, Deep Learning, Database Systems, Database Implementation, Data & Visual Analytics

**Georgia Institute of Technology**, Atlanta, GA Aug 2018 - May 2023

Bachelor of Science in Computer Science (Concentrations: Theory and Intelligence)

**GPA 3.86/4.00**

- Courses: Machine Learning, Probability & Statistics, Data Structures, Linear Algebra, Object-oriented Program
- Military service leave from Fall 2020 - Spring 2022 for Republic of Korea Army

## EXPERIENCE

**Georgia Institute of Technology, College of Computing** Atlanta, Georgia

*Graduate Teaching Assistant: Graduate Algorithms* Aug 2023 - Present

- Instruct and assess 1300+ masters students interested in the field of machine learning and algorithms
- Collaborate with Dr. Gerandy Brito to adapt lesson plans for online students to have the best in-class experience
- Lead discussions on EdDiscussions, grade 55 student homework weekly, and proctor tests for academic integrity

**DuckAI** Atlanta, Georgia

*Machine Learning Researcher* May 2023 - Aug 2023

- Researched and built a multimodal computer agent that interacts with a computer the same way humans do
- Data scraped to create a dataset of 10,000+ latex documents and youtube videos to train the multimodal agent
- Designed and 3D-printed glass frames to hold a webcam and eye trackers to mimic and track eye movement

**NCR Corporation** Atlanta, Georgia

*Software Engineering Intern* May 2020 - Aug 2020

- Released beta app to collect data on change in demand of food & supplies at gas stations to maximize profit
- Designed a survey and analyzed correlation between weather and items sold from 80 user responses
- Operated with React, TypeScript, and Google Firebase to display questions and store in-stock supply in real-time

**IBM Watson Design & Intelligence Lab** Atlanta, Georgia

*Research Assistant under Dr. Ashok Goel* Sep 2019 - May 2020

- Increased precision from 71% to 86% using knowledge graphs with Neo4j, connecting similar student questions
- Incorporated the BERT algorithm to improve the virtual teaching assistant agent search coverage of the syllabus
- Labeled 1000+ questions to see correlations between JW response accuracy and the phrasing of a question

## RESEARCH/PROJECTS

**Detecting Counterfeit Amazon Products, Natural Language Processing** Aug 2023 - Present

- Classify Amazon counterfeit products, fine-tuning BERT and CLIP with reviews, comments, and product rating
- Publish a research paper on the findings and performance of the language models in correctly detecting products

**Language Model Apps Optimized by Machine Learning Databases** Sep 2023 - Present

- Integrate EvaDB and Embedchain as data platforms to create interactive LLM powered bots using OpenAI API
- Optimize data storage on EvaDB using HuggingFace Whisper for audio and DistilBERT for text summarization

**Hateful Content Detection in Memes, Deep Learning** Mar 2023 - May 2023

- Designed DL models using BERT, GPT2, XLNet, and ResNet with 60% accuracy determining hateful text/images

**Predicting Heart Attack, Machine Learning** May 2022 - Jul 2022

- Evaluated 13 features of patients and created an 88% accuracy decision tree model applicable to industry

**Code Pattern Recognition, Automated Code Analysis** Jan 2020 - May 2020

- Integrated auto-personalized feedback into CS1301 to improve 4000+ students' code optimization to present day

## LEADERSHIP

**Getting to Know U** Atlanta, Georgia

*Research Lead under Dr. Chaouki Abdallah* Aug 2022 - Present

- Analyzed compatibility between HBCUs and GT leading the new initiative to promote educational equality
- Resulted in GT Research Exec connecting and collaborating with HBCUs I proposed with 3 page analysis report

**Georgia Institute of Technology, College of Computing** Atlanta, Georgia

*Undergraduate Teaching Assistant: Computing in Python* Aug 2019 - May 2020; Aug 2022 - May 2023

- Led the research subteam of TAs to find ways to better assist online students using data from the last 5 years
- Analyzed and queried the OMSCS edX database to find correlation between grades and study patterns

## SKILLS/PERSONAL

**Tools/Software:** Tableau, Numpy, Pandas, SQLite3, Flask, OpenRefine, Scikit-Learn, Excel, Pytorch, Tensorflow, Scipy, Node.js, Github, Figma, React, Docker, Github, Postman, Jira, Agile Methodology, Linux, MongoDB, D3, Spark, AWS

**Programming:** Python, Java, MySQL, C, C++, JavaScript, TypeScript, HTML **Languages:** Korean, English, Spanish