Ronak Agarwal

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EDUCATION

Georgia Institute of Technology — **Exp. May 2025**
Degree: B.S. in Computer Science (Artificial Intelligence & Modeling Simulation), Minor in Economics — *Atlanta, GA*
Courses: Data Structures & Algorithms, Low-Level Programming, Combinatorics, Statistics — *GPA:* **4.0 (Faculty Honors)**
Differential Equations, Discrete Mathematics, Machine Learning, High Performance Computing, Computer Simulation

EXPERIENCE

DoorDash — May 2025 - Aug 2025
Incoming Software Engineer Intern — *San Francisco, CA*

Amazon — May 2024 - August 2024
Software Engineer Intern — *Seattle, WA*
- Developed a versatile backtesting framework using AWS Glue; reduced feature validation time - proj. savings of **$10 million per yr** - & accelerated deployment cycles for Amazon's route planning & package consolidation systems used by all drivers
- Enhanced ML model by **5%** using AWS SageMaker to optimize less-than-truckload (LTL) truck loading and routing
- Implemented AWS API Gateway and Lambda solutions, reducing testing time by **98%** through parallel simulation execution
- Co-engineered an AWS reporting framework, generating detailed efficiency summaries, increasing reporting accuracy by **15%**

Chick-fil-A (CFA), Innovation & New Ventures Team — May 2023 - December 2023
Technical Product Manager Intern — *Atlanta, GA*
- Advised development of autonomous operations utilizing MERN tech stack, including delivery and on-premise automation
- Collaborated with startups to integrate their technologies & dev. tools seamlessly with CFA's MongoDB infrastructure
- Evaluated pilot tech on-site & formulated technical case studies, to spearhead development of new tech stack utilizing React
- Projected a **75% workforce reduction** through automation initiatives, enhancing operator efficiency and reducing reliance on manual labor; Led VR/AR integration efforts to further cut training costs by **15% per employee**

Founder & CEO — June 2023 - August 2024
UniVerse — *Remote*
- Pioneered a platform utilizing MERN stack & Firebase to revolutionize the student registration and scheduling experience
- Developed a schedule recommendation chatbot leveraging a Language Learning Model (LLM) through LangChain & Python, alongside other quality-of-life features and tools to alleviate student stress
- Positioned UniVerse as a personalized solution for schools/students using TypeScript React for an intuitive frontend interface
- Secured interest from **8** respectable educational institutions for collaboration/funding with an initial **3,000** users

Software Engineer Intern — May 2022 - August 2022
Singh360 — *Minneapolis, MN*
- Developed/trained ML voice recognition software using Python and TensorFlow to enhance user engagement on website
- Created a mock-website and database on AWS using Spring Boot and PostgreSQL to test voice search functionality
- Boosted server query response time by **300%** by optimizing RESTful API, leveraging Node.js and Express.js for voice input

PROJECTS

BinVision | *Computer Vision, React.js, Express.js, Node.js, Flask, Firebase, Python* — Oct. 2023
- Developed a ResNet34 trash classification model & created React.js app frontend, reducing mis-sorted trash by **30%**
- Created Node/Express.js/Firebase/Flask backend that hosts the model and provides statistical analysis on trash patterns
- **Won 1 of 5** total tracks in HackGTX (Sustainability) due to BinVision's ability to track recycling insights across campus

Amazon Price Prediction Tool | *BeautifulSoup, Selenium, Python, TensorFlow, ChatGPT API* — Dec. 2023 - Jun. 2023
- Engineered a Selenium/BeautifulSoup tool to scrape thousands of reviews and historical prices from Amazon products
- Conducted advanced sentiment analysis and sarcasm detection on 4500+ reviews leveraging VADER and ChatGPT API
- Developed RNN-LSTM model to predict weekly Amazon product prices with **85%** accuracy, findings showcased at UROP

Agricultural Commodity Volatility Predictor | *LangChain, Scikit, Pandas, Python, TensorFlow* — Aug. 2023 - Jan. 2023
- Leveraged Scikit-learn/TensorFlow to achieve **78%** accuracy in predicting volatility of commodities like corn, soy, and wheat
- Analyzed qualitative outlooks using Pandas & Natural Language Toolkit (NLTK), **15%** boost of volatility forecast accuracy
- Constructed a data pipeline for aggregating, processing, and feeding sentiment data into ML models, improving outlooks

Psychologist Assistant Tool | *LangChain, Python, NumPy, TensorFlow, React.js* — May. 2023 - Present
- Developed chatbot using LangChain/GPT to enhance psychologists' diagnostic accuracy and improving patient interactions
- Achieved **15%** more correct responses by refining & fine-tuning Language Learning Models (LLMs) with TensorFlow
- Implemented iterative feedback loop of user analytics using React.js to continuously improve chatbot functionality over time

QUALIFICATIONS

Languages: Java, Python, TypeScript/JavaScript, C, C++, HTML/CSS, LaTeX, MATLAB,
Dev. Tools/Frameworks: TensorFlow, React, Spring, NodeJS, Git, Postman, Docker
Certifications: Stanford & DeepLearning.AI Machine Learning Specialization, Advanced Learning Algorithms