

Swebert Correa

correaswebert@gatech.edu · (470) 685-1680 · Atlanta, GA 30363

[linkedin.com/in/correaswebert](https://www.linkedin.com/in/correaswebert)

github.com/correaswebert

EDUCATION

- **Georgia Institute of Technology** Atlanta, Georgia
• *Master of Science in Computer Science* Aug 2024 - May 2026
Coursework: Machine Learning, Advanced Database Systems, Securing the Internet Infrastructure, Computer Networks
Graduate Teaching Assistant for Natural Language Processing
- **College of Engineering, Pune (COEP)** Pune, India
• *Bachelor of Technology in Computer Engineering; GPA: 9.05/10.0* Aug 2018 - Oct 2022
Coursework: Artificial Intelligence, Data Science, Database Systems, Distributed Systems, Statistics for Finance

SKILLS

- **Languages:** Python, C, C++, TypeScript, JavaScript, Go (Golang), SQL, Bash (Linux Shell Scripting)
- **Frameworks:** Django, Conjure, JAX, PyTorch, TensorFlow, HuggingFace, Spark, Flink, Kafka
- **Tools:** Elasticsearch, Prometheus, Grafana, Jenkins, CircleCI, Git, Jupyter, Postgres, Plotly
- **Platforms:** Kubernetes, Docker, AWS, GCP, RHEL, Fedora, Debian, Ubuntu

PROJECTS

- **Music Generation AI | Genetic Algorithms**
 - Implemented a genetic algorithm to generate new melody variations based on prior inputs and dataset
 - Devised a model to calculate fitness score based on user's previous acceptances and rejections
 - Developed virtual synth pad as HCI interface for translating the genomes to and from human format
- **Multimodal Conversational Agent with RAG | Large Language Models**
 - Built multimodal chatbot using LLMs with a RAG pipeline powered by Veaviate vector DB for context
 - Fine-tuned using LoRA and optimized dialogue quality with reinforcement learning for 92% user rating
 - Deployed the system using docker and integrated Ollama for scalable multimodal interactions
- **Multi-Task Vision System for Image Recognition and Synthesis | Computer Vision**
 - Used YOLO for real-time object detection and ViT/CLIP for multimodal classification with 95% accuracy.
 - Developed a GAN-based module for generating high-quality, photorealistic images and augmenting datasets
 - Optimized feature extraction with CNN mixture models and integrated OpenCV for real-time processing

PUBLICATION

- **Human-Computer Music Co-Production Using Genetic Algorithms** Best Paper Award
IEEE International Conference on Computing, Communication, Security and Intelligent Systems 2022

EXPERIENCE

- **Rakuten Symphony** Pune, India
Associate Software Engineer Jun 2022 - Jul 2024
 - **Metadata Management:** Strategically maintained and scanned millions of rows for life-cycle management, finding missing chunks, performing RBAC, etc. utilising means like stored procedures.
 - **Cluster Manager:** Co-developed the orchestrator service with team-lead which included creating heuristic algorithms to predict the upcoming load on service fleet and allocate resources accordingly
 - **Micro-service Diagnostic Utility:** Collated data from various micro-services to determine the number of in-flight IOs on all the distributed volume managers of the block storage using pub/sub model
- **Citi Bank** Pune, India
Technical Summer Analyst May 2021 - Jul 2021
 - **DevOps:** Created CI/CD pipeline using PowerShell to email results to all stakeholders with single click
 - **Optimization:** Leveraged various wait strategies to achieve a 5x reduction in runtime from 30min to 6min