KINSHUK PHALKE

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Education

Georgia Institute of Technology   **August 2021 - May 2024**
Bachelor of Science in Computer Science, GPA: 4.0   *Atlanta, Georgia*

- **Concentration:** System and Architecture, Intelligence
- **Relevant Coursework:** Algorithms Honors, Discrete Math Honors, Datastructures and Algorithms, Object Oriented Prorgamming, Operating Systems, Systems and Networking , Machine Learning, Adv/HP Computer Architecture
- **Clubs:** dependently-typed (Executive Committee)

Experience

Georgia Tech High Performance Architecture Lab   **Jan 2023 − Present**
Undergraduate Research Assistant   *Atlanta, Georgia*

- Working on In-Storage GPU architecture and scheduling strategies to maximize memory capacity and performance in GPUs.

NCR Corporation   **May 2021 − August 2021**
Software Engineer Intern   *Atlanta, Georgia*

- Developed a shopping cart micro service in Go Fiber deployed onto GCP to enable carting on PoS devices and websites.
- Designed core logic in CRUD operations of cart and service integration into NCR's BSP layer for related taxes, prices, store locations, promotions, returns and item attributes information and operations.
- Implemented YAML deployment files for the Kubernetes cluster, adding scalability and multi-tenancy.
- Architected a CI/CD pipeline to run testing suite, verify and publish deployments, publish artifacts onto GCP.
- Automated using a Bash script with 12 presets to change environment variables for different stages in production, run the Kubernetes cluster, create and update internal CA certificates and manage kubectl pods and deployments.

Notitia   **November 2021 − Present**
Software Engineer   *Atlanta, Georgia*

- Built a LDA model in Python for Topic Discovery capabale of ingesting 50K tokens, tuned UMAP parameters to achieve a 80% accuracy in dimensionality reduction, utilized FAISS in clustering, designed WordCloud UI using React Flow.
- Optimized the frontend graph rendering by 60% and backend machine learning algorithm by 40%.

Projects

SpeechToCode   *Python, ReactJS, Node.js*

- Developed meta language parser in Python to create functional JavaScript, Python or Java code from spoken english.
- Implemented a visitor pattern, lexical scoping system, text based type inference system to create language output.
- Integrated with the speech to text machine learning flask server and designing the frontend in ReactJS.

DeusCL   *Rust, Common Lisp, Yew Framework*

- Developed a memory-safe REPL in Rust using a handwritten recursive descent parser and a visitor pattern evaluator.
- Implemented basic type inference, type checking, error handling system, lexically scoped garbage collector and a dynamic evaluation of functional environment and parameters.
- Designed a frontend in Yew Framework in Rust to enable users to use a web based simulation of REPL.

Publixmon   *MongoDB, Express.JS, React Native, Node.JS, Flask, Node.js*

- Developed a Web3 mobile app in React Native allowing users to play NFT trading game to boost retail engagement.
- Integrated with the NCR BSP layer for order, catalog, inventory details and generate an NFT based on user history.
- Tested mining NFTs on the Ganache Blockchain via a node.js server to facilitate Smart Contracts from the App.
- Project won the first place at the NCR API Challenge at HackGT 8.

Enhance   *Python, Tensorflow, Keras*

- Developed a Res-Net Implementation of the Super Resolution GAN Paper for Super Resolution in Tensorflow.
- Implemented residual blocks and skip connection, Used the VGG-19 model to calculate the content loss of the model.
- Achieved perceptible improvements in image quality on the DIV2K dataset with a downscale factor 4.

Technical Skills

Languages: Python, Rust, Go, JavaScript, Java, C, C++, C#, TypeScript, Solidity, Bash
Frameworks: ReactJS, Next.JS, NestJS, Astro, Express.js, Node.js, Flutter, React Native, Redux, Web3.js, Yew, Tauri
Machine Learning: Tensorflow, PyTorch, NumPy, Scikit-learn, Matplotlib, Pandas, Keras, NLTK
Technologies: Git, Linux, Docker, Postman, LaTeX, MongoDB, Redis, Kubernetes, GCP, AWS