Rakshith Gopala Krishna

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Education

University of California, Santa Barbara   *September 2019 - December 2021 (expected)*
Master of Science, Computer Science   **GPA: 3.96/4.00**
− *Coursework*: Advanced Topics in Security, Advanced Topics in Distributed Systems, Graduate Cryptography, Runtime Systems, Blockchains and Cryptocurrencies, Scalable Internet Services, Data Integration Techniques

National Institute of Technology Karnataka, Surathkal, India   *August 2015 - May 2019*
Bachelor of Technology, Information Technology (Rank 2/104)   **GPA: 9.75/10.00**

Skills

Languages Proficient: C, C++, Python **Familiar:** Go, Java, Rust, TypeScript

Tools Git, LaTeX, shell scripting

Web Development HTML, CSS, JavaScript, jQuery, Django, Postgres

Experience

Algorand, Inc.   Boston, MA
Software Engineering Intern   **June 2021 - September 2021**
− Built a monitoring system to track the health of the node's transaction pool in the Algorand blockchain.
− The monitoring system queries Elasticsearch for telemetry events, Prometheus for the relevant metrics and visualizes the network topology using SigmaJS with a sub-second latency.

Indian Institute of Science   Bangalore,India
Research Intern   Advisor : Prof. Jayant Haritsa   **August 2018 - December 2018**
− Profiled pgCredereum - state of the art blockchain relational database system.
− Programmatic and architectural improvements to pgCredereum resulted in 10x performance improvement.

Technische Universität Berlin   Berlin, Germany
Research Intern   Advisor : Prof. Manfred Hauswirth   **May 2018- July 2018**
− Developed heuristic solutions to identify hotspots while indexing and querying moving objects in real-time, and dynamically ease them to improve scalability.

DoSelect   Bangalore, India
Software Development Intern   **May 2017- July 2017**
− Wrote scalable REST APIs for a new blog management system, mail delivery analytics and redesigned the entire backoffice of the web application.

Publications

• **Rakshith G**, Rahul M V, Sanjay G S, Natesha B V, and Ram Mohana Reddy G, *"Resource Provisioning Framework for IoT Applications in Fog Computing Environment"*, 12th IEEE International Conference on Advanced Networks and Telecommunication Systems, 2018.

Projects

• **Walnut**   [arXiv]
Privacy preserving IFTTT   **Febraury 2020 - Present**
− Built a privacy preserving trigger-action platform by using multiparty computation and trusted execution environments to achieve privacy and integrity at a dollar cost of $3.74\times$ over a non-secure baseline.
− Currently working on a protocol based on fully homomorphic encryption to transition to a single server setting.

• **PAXOS-Banking**   [GitHub]
Distributed transaction ledger using modified PAXOS consensus   **Febraury 2020 - March 2020**

• **simple-blockchain**   [GitHub]
Implemented two distributed algorithms   **Febraury 2020 - March 2020**
− Built a non-replicated transaction ledger using Lamport's distributed mutual exclusion algorithm and a replicated transaction ledger using Wuu and Bernstein's algorithm.

Achievements

• Awarded the Academic Excellence Fellowship by the CS dept. at UCSB, September 2019.

• Recipient of the Huawei Scholarship for being in top 3 of the department at NITK, January 2019.

• Awarded the **DAAD WISE** fellowship to pursue a research internship at TU Berlin from the German Academic Exchange Service (DAAD), January 2018.