Madhu **Krishnan**

· Software Engineer · Backend & Distributed Systems ·

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Education

University of California, San Diego   *Sep. 2012 - Dec. 2016*

Double Degree (Summa Cum Laude)
  B.S. Computer Science
  B.S. Applied Mathematics

- Undergraduate Tutor
- Tau Beta Pi Honor Society (Vice-President)

Skills & Qualifications

Languages	Java, Typescript, Javascript, Python, Go, C/C++, Bash, MATLAB, Haskell, LaTeX
Technologies	Postgres, Node.js, gRPC, GraphQL, React, Solr, Kafka, Datadog, Splunk, Kubernetes, Terraform, AWS, Microservices, Git

Work Experience

Uptrust

Software Engineer   *Apr. 2021 - Jun. 2022*

Languages & Technologies: Typescript, Coffeescript, GraphQL, Firebase, React, Twilio, AWS Postgres, CircleCI

- Reduced customer attrition by contributing to key product features - video chat, announcements, recurring events, and multiple staff members.
- Unlocked more customers by increasing messaging throughput using a new data access layer and optimized cross-service network requests.
- Enhanced messaging service quality by introducing rate-limiting, at-least-once queue delivery, and backpressure.
- Improved failure incidence and detection by implementing automatic consumer retries, queue alerts, and structured logging.

Salesforce

Senior Software Engineer   *Mar. 2017 - Apr. 2021*
Intern (Core Search)   *Jun. 2016 - Sep. 2016*
Intern (Service Cloud)   *Jun. 2015 - Sep. 2015*

Languages & Technologies: Java, Python, Go, gRPC, Solr, EKS, Terraform, PL/SQL, Spinnaker, Jenkins

- Attained optimistic search business timelines for the new public cloud architecture, Hyperforce, by leading the implementation of a "many-namespace" solution for developer productivity - presented the design and results to the CTO and principal architects.
- Reached performance targets for Hyperforce and real-time search suggestions by reducing tail latencies with optimized backend fan-out.
- Improved CTR and Precision@K search metrics in Hyperforce by owning and deploying the ML model execution engine.
- Shortened the development lifecycle by implementing key features for feature-toggling, A/B experimentation, and ML model deployments.

Annai Systems

Software Engineering Intern   *June. 2014 - Sep. 2014*

Languages & Technologies: C/C++, Python, Bash, Make/CMake, OpenSSL EVP, UDP, UDT, NAT Traversal

- Enabled encrypted transport of genome sequences by extending UDT, a WAN-optimized application-layer protocol.

Research Experience

Cryptographic Security of Novel Hypermedia Protocols

Undergraduate Researcher   *2016*

- Analyzed the crytographic security of IPFS, a peer-to-peer distributed protocol and application suite. (Paper)

Autonomous Mapping and Navigation

Undergraduate Researcher   *2011 - 2013*

- *Edge-based Crowd Detection from Single Image Datasets* (Published in IJCSI, Vol. 12)
- *Autonomous Mapping and Navigation through Edge-based Optical Flow and Time-to-Collision* (Published in ARPN, Vol. 7)

Projects

Competitions

2020	**Winner of 'Coolest Hack',**	Einstin Cloud Hackathon (Multi-Armed Bandit Experimentation)
2014	**3rd Place,**	Facebook Hackathon (Facebook Reconnect)
2013	**2nd Place,**	Intuit Hackathon (Triton Exchange)
2012	**2nd Place,**	Intel ISEF Sweepstakes
2012	**1st Place,**	Greater San Diego Science and Engineering Fair