

# SUDARSHAN MURALIDHAR

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## SELECTED WORK EXPERIENCE

**Engineering Lead (People Manager), Atlas Device Sync – MongoDB, Inc.** – <https://mongodb.com> *December 2020 — Present*  
*New York, NY*

- Manager for 6 engineers across all levels. Hired the team and responsible for performance/growth, culture, roadmap and prioritization
  - ❖ Provide thought-leadership by streamlining processes and optimizing workflows, e.g. error reviews, bug queues, and test infra
  - ❖ Remain very technical, regularly writing and reviewing code and architectural designs, enabling the team to execute effectively
- Sync is the cloud component of a service that provides seamless synchronization of data across mobile devices and MongoDB
- Responsible for ideation, design, implementation and delivery of Edge Server, an on-premise Sync that will survive network partitions
  - ❖ Led multi-year initiative spanning multiple projects and teams, involving >10 engineers, to Private Preview and Public Launch
  - ❖ Built infrastructure to enable one-click deployment in most environments that support Docker or Kubernetes orchestration
  - ❖ Ran user research, collaborated with industry partners, and worked with sales and marketing to guide Product and GTM plan
- Spoke about Sync at MongoDB World (<https://bit.ly/mongodb-world-sync>) and on the Talking Kotlin podcast (<https://bit.ly/talking-kotlin>)

**Cofounder and CTO – Upbeat Music, LLC.** – <https://upbeatmusicapp.com> *March 2020 — June 2022*

- Upbeat was a music ed-tech platform that helped socially-distanced musicians practice and perform together while physically separated
  - ❖ Solved video chat's intrinsic latency problems by enabling musicians to create synchronized performance videos
  - ❖ At peak, experienced regular and around-the-clock usage by 200k users and 5k paying schools across 6 continents
  - ❖ Acquired by MakeMusic in 2022 after being 100% bootstrapped and hitting six-figure MRR in 60 days after launch
- Ran engineering, accounting, legal, and marketing functions. Hired, trained, and managed a team of contractors in these roles
- Built a Golang distributed system backend and a React frontend used by tens of thousands of concurrent, non-tech-savvy users
  - ❖ Designed a Golang library around FFmpeg; used it to craft complex audio / video processing pipelines to sync and merge video
  - ❖ Customized and maintained an autoscaling Jitsi (<https://jitsi.org>) cluster to handle global, spiky video chat traffic
  - ❖ Implemented devops processes (CI / CD, autoscaling, alerting, etc) to optimize user experience while minimizing support load
- Secured trademark for *Upbeat Music*, and successfully defended it from a Trademark Troll and lawsuit threat

**Senior Software Engineer – Igneous Systems, LLC.** – <https://igneous.io> *September 2016 — November 2020*  
*Seattle, WA*

- Technical lead for teams of diverse engineers; responsible for architecting solutions and guiding engineers to deliver products effectively
  - ❖ Go-to person for difficult operational issues; investigate and drive team to solutions for arcane bugs and performance concerns
  - ❖ Mentor junior engineers, resolve engineering disputes, drive best practices, scope projects, and help define roadmap
- Engineering owner of *Data Mover (DM)* – engine at the core of all of Igneous's products, processing petabytes / billions of files daily
  - ❖ Started solo on a proof-of-concept; grew it over years into a mission-critical component supported by two engineering teams
  - ❖ Key components include purpose-built NFS and SMB clients, a highly distributed crawler, and efficient diff and copy algorithms
- Co-designed, led implementation on, and was responsible for end-to-end delivery and launch of several versions of *Data Discover*
  - ❖ *DM* service with cloud-based metadata index – scans and provides search and aggregation over billions of files in a few hours
  - ❖ Wrote about it in a series of 5 blog posts: <https://bit.ly/billion-files>
- Design and lead cross-team implementation and deployment of new services, including *Replication*, *Direct-to-Cloud*, and *Mixed-Mode*
  - ❖ Help define and fulfill vision of moving data between arbitrary locations and cloud, maintaining efficient local metadata indices
- Head of the *Ministry of Fun*, the group for organizing social and morale company events. Ran events and worked to improve culture

## EDUCATION

**University of Pennsylvania – School of Engineering and Applied Science** *August 2012 — May 2016*  
*Philadelphia, PA*

- Joint MSE in Computer Science, BSE in Networked and Social Systems Engineering (NETS), with minors in Economics and Mathematics
  - ❖ NETS (<https://nets.upenn.edu>) is a multidisciplinary CS program focused on the study of networks and online behavior
- Head Teaching Assistant for NETS212 (Scalable and Cloud Computing) – taught Cloud Computing Fundamentals (AWS, Hadoop, etc.)

## PROJECTS

**Daruma – 1st Place UPenn Senior Design Competition** – <https://sudssm.github.io/daruma> *January 2016 — May 2016*

- Daruma solves many of the problems intrinsic to cloud storage by cleverly combining multiple cloud providers. It cryptographically guarantees that cloud providers cannot read, modify, or delete user files, providing stronger privacy than any public option today

## TECHNICAL SKILLS

**Languages: Proficient: Golang; Strong: Python, Java, Javascript/Typescript; Experienced: Shell Scripting, Scala, Ruby**  
**Web Technologies: Graphic Design, HTML, CSS, React, Redux, Vercel, PHP, SQL, MongoDB, Firebase**  
**Networked Systems / Cloud Computing / Big Data: Hadoop, AWS/GCP/Azure, OpenStack, SaaS Infrastructure**

## INTERESTS

- Enjoy playing flute, skiing, kickboxing, practicing Taïdo Karate, playing chess, watching movies, and taking in views from high places.

Refer to <http://www.smuralidhar.com> for my Project Portfolio. References available upon request.