

Aman Mangal

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PROFESSIONAL EXPERIENCE	Dgraph Labs, Bengaluru, KA, India [Feb'19 – Apr'20] Senior Distributed Systems Engineer (Mentor: Manish Jain) <ul style="list-style-type: none">■ Dgraph is a strongly consistent, horizontally scalable graph database written in <i>Go</i>■ Enabled Dgraph to compute indexes in background unblocking new mutations while ensuring that index deltas are added correctly for existing as well as new mutations■ Added support for <i>Upsert</i> and <i>Multiple Mutations</i> in the query language (<i>GraphQL+</i>) by modifying the lexer, compiler and the execution engine■ Founding engineer of the team in Bangalore and grew the team to more than 15 people Zeotap, Bengaluru, KA, India [Apr'17 – Jan'19] Senior Software Engineer (Mentor: Sathish K S) <ul style="list-style-type: none">■ Built, optimized and stablized data pipelines using <i>Spark</i> and <i>Oozie</i> to push data to <i>Aerospike</i> and <i>Amazon Redshift</i> while ensuring consistency of data even when jobs fail■ Implemented an in-memory columnar database in <i>Go</i> for customized low latency use case■ Designed an algorithm to compute revenue attribution SQL query for multi-sourced dataset with proof for correctness along with various query optimization steps ZeroStack Inc, Mountain View, CA, USA [June'16 – Sept'16] Member of Technical Staff Intern (Mentors: Gautam Kulkarni, Kiran Bondalapati) <ul style="list-style-type: none">■ Implemented support for adding external storage to ZeroStack using OpenStack Cinder drivers, extensible to future Cinder drivers with minimal changes to ZeroStack■ Ensured atomicity, eventual consistency and recoverability on crash or power failures Bell Labs, Murray Hill, NJ, USA [Jun'15 – Aug'15] Summer Intern (Mentors: Martin Carroll, Ilija Hadzic, Christian Hans Woithe) <ul style="list-style-type: none">■ Developed a monitoring infrastructure for Linux containers using <i>collectd</i>, <i>influxdb</i>, <i>grafana</i>■ Compared load prediction and packing algorithms using Discrete Event Simulation technique for "streaming" containers assuming a exponentially distributed workload
EDUCATION	Georgia Institute of Technology, Atlanta, GA, USA MS in Computer Science (Specialization: Systems), GPA 3.71/4 [Aug'14 – Jun'16] Indian Institute of Technology, Bombay, India B.Tech. (Hons.) in Computer Science & Engineering, GPA: 8.54/10 Minor in Electrical Engineering [Aug'10 – Jun'14]
HOBBY PROJECTS	BigQueue (https://github.com/grandecola/bigqueue) <ul style="list-style-type: none">■ Inspired from Java BigQueue, built an open source (MIT License) embedded, fast and persistent queue written in pure Go using memory mapped (mmap) files Zscaler - hackathon @ Zeotap (https://tinyurl.com/zscaler-hackathon) <ul style="list-style-type: none">■ Replaced an external service (Spotinst) used to scale AWS Elastic Map Reduce (EMR) clusters with spot nodes by a custom built service saving more than \$50K/year■ Utilized insights from the yarn cluster scheduler in order to provide shorter job completion times (by faster scale up), better visibility and proactive alerts
ACADEMIC ACHIEVEMENTS	<ul style="list-style-type: none">■ Secured All India Rank 70 in IIT JEE 2010 and All India Rank 256 in AIEEE 2010■ Stood amongst top 1% students in Indian National Physics Olympiad, 56th in National Science Olympiad (NSO), 7th in second round of Indian National Mathematics Olympiad■ Selected for Google Summer of Code 2013 (<i>BEAM</i> community) and developed <i>Erlang</i> Package Manager to create and maintain index of Erlang packages