

Aman Mangal

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PROFESSIONAL EXPERIENCE	<p>Zeotap, Bengaluru, KA, India [Apr'17 – Jan'19] Senior Software Engineer (Mentor: Sathish K S)</p> <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 usecase■ Designed an algorithm to compute revenue attribution SQL query for multi-sourced dataset with theoretical proof for correctness along with various query optimization steps <p>Lumiata Inc, Mumbai, India [Nov'16 – Jan'17] Data Engineer (Mentor: Prashant Kukde)</p> <ul style="list-style-type: none">■ Scaled the existing <i>Spark</i> cluster to possibly hundreds of nodes by containerizing all the services using <i>docker</i> and performing manual orchestration using <i>docker-compose</i>■ Setup a secure <i>docker</i> registry server, a UI server to browse through docker images as well as <i>Kubernetes</i> cluster for running multi node <i>Spark</i> cluster <p>ZeroStack Inc, Mountain View, CA, USA [June'16 – Sept'16] Member of Technical Staff Intern (Mentors: Gautam Kulkarni, Kiran Bondalapati)</p> <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 <p>Bell Labs, Murray Hill, NJ, USA [Jun'15 – Aug'15] Summer Intern (Mentors: Martin Carroll, Ilija Hadzic, Christian Hans Woithe)</p> <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	<p>Georgia Institute of Technology, Atlanta, GA, USA MS in Computer Science (Specialization: Systems), GPA 3.71/4 [Aug'14 – Jun'16]</p> <p>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]</p>
HOBBY PROJECTS	<p>BigQueue (https://github.com/grandecola/bigqueue)</p> <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
PUBLICATIONS	<ol style="list-style-type: none">1. Aman Mangal, Arun Mathew, Tanmay Randhavane and Umesh Bellur. "DEBS Grand Challenge: Predicting Power Needs in Smart Grids". In Proceedings of the 8th ACM International Conference on <i>Distributed Event-Based Systems</i> (DEBS '14)2. Mehdi Nikkhah, Aman Mangal, Constantine Dovrolis, Roch GuÄlrin. "A Statistical Exploration of Protocol Adoption". In IEEE/ACM Transactions on Networking (TON) 25 (5), 2858-2871
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