Prateek Agarwal

Passionate about building scalable and fault-tolerant infrastructure.

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PROFESSIONAL EXPERIENCE (~**16** years)

Current -
Jan. 2019

Uber, *Data Infrastructure*, Bangalore, IN.
Senior Staff Sw Engineer (Jul. 2023 - Now)
Staff Software Engineer, TLM (Jan. 2021 - Jun. 2023)
Senior Software Engineer (Jan. 2019 - Dec. 2020)

- ○ Leading the migration of Uber's Data Lake (~500PB Storage, ~1000K Cores Compute) from On Premise to Cloud without customer disruption (a multi-year effort).
- ○ Responsible for Disaster Recovery Strategy for the complete Data Platform.
- ○ Built and Managed the Storage / HDFS team in India from scratch.
- ○ Responsible for high availability and durability of Uber **HDFS clusters** which physically store ~1.5EB data (One of the biggest in the Industry).
- ○ Working on various Cost Efficiency efforts to keep the clusters running at their maximum utilization.
- ○ Led the Kafka Security and performance projects to adhere to the PII, PSD2 and SOX compliance.
- ○ Technologies got to work on: **HDFS, YARN, Airflow, Kafka, ZooKeeper**

Dec. 2018 -
Apr. 2017

Appdynamics, *Common Infrastructure Platform*, Bangalore, IN/San Francisco, USA.
Staff Software Engineer (Nov. 2017 - Dec. 2018)
Senior Software Engineer (Apr. 2017 - Oct. 2017)

- ○ Part of the *Data Ingestion team* responsible for scaling the backend services on cloud.
- ○ Architected the **Kubernetes deployment** framework to make it multi-tenanted.
- ○ Designed workflows to easily provision new Kubernetes clusters on both On-Premise and AWS.
- ○ Built the Kubernetes deployment framework to break monolith Platform services into micro-services.
- ○ Built Monitoring/Alerting/Logging solutions to efficiently monitor deployments on Kubernetes.
- ○ Technologies got to work on: **Kubernetes, Helm, Kops, Python, Jenkins, Ansible**

Apr. 2017 -
May. 2014

Yelp, *Distributed Systems*, San Francisco, USA.
Software Engineer (Jan. 2015 - Apr. 2017)
Software Engineer Intern (May 2014 - Aug. 2014)

- ○ Maintained and provided tooling around NoSQL datastores - **Cassandra, ElasticSearch**.
- ○ Built `Zipkin` (Distributed tracing) infrastructure at Yelp to debug service latencies.
- ○ Wrote `pyramid_zipkin`, `swagger_zipkin` packages to easily integrate Zipkin with existing services.
- ○ Co-authored `bravado` and `swagger-py` packages to integrate python services with Swagger specs.
- ○ Technologies got to work on: **Cassandra, Elasticsearch, Python, Swagger, Zipkin**

Apr. 2014 -
Dec. 2013

Texas Advanced Computing Center, Austin TX, USA.
Graduate Research Assistant (Dec. 2013 - Apr. 2014)

- ○ Added docker integration to web portal digitalrocksportal.org to streamline the deployment process.
- ○ Technologies got to work on: **Python, Django, Docker, Docker-compose, Celery**

Jul. 2013 -
Jun. 2011

Flipkart, *Supply Chain Backend*, Bangalore, IN.
Software Development Engineer II (Jun. 2012 - Jul. 2013)
Software Development Engineer I (Jun. 2011 - Jul. 2012)

- ○ Part of the Supply chain team which managed Warehouse and Logistics System.
- ○ Built a new Supply chain framework from scratch which scales to 10X compared to the older system.
- ○ Technologies got to work on: **Ruby, Java, Hive, MySQL**

Jun. 2011 -
Jul. 2009

IBM Software Labs, *Informix DB*, Bangalore, IN.
Software Engineer (Jul. 2009 - Jun. 2011)

- ○ Handled high priority issues for JDBC client driver for IBM Informix database.
- ○ Was awarded for resolving an obscure deadlock situation, making Informix JDBC driver robust.
- ○ Technologies got to work on: **Java, IBM Informix, IBM DB2**

GITHUB PROJECTS

- **prat0318/json_resume** - Details at prat0318.com/json_resume

- o Ruby library to generate resume from JSON to HTML, pdf, md, tex formats.
- o Around 1K stars on Github. Front page of Hacker News
- o Current resume has been generated using json_resume.

- **prat0318/2048-tetris** - Live at prat0318.com/2048-tetris
    - o Wrote a Tetris variant of 2048 game, 1M+ unique visits
    - o Front page of Hacker News, mentioned in TechCrunch.

- **Yelp/pyramid_zipkin** - Zipkin integration with Pythonic services.
    - o Built pyramid_zipkin as a wrapper to bind Pyramid based services with Zipkin.
    - o Also wrote swagger_zipkin as a zipkin decorator over swagger clients.
    - o Authored an engineering blog post: Distributed Tracing at Yelp.

- **Major contributor to swagger packages** - swagger-py, bravado, pyamid-swagger
    - o Wrote swagger-py as part of my internship at Yelp - currently used in production.

Talks/Blog posts

- Uber Engineering Blog [Apr. 2022] : Securing Kafka Infrastructure at Uber

- OpenZipkin/Distributed Tracing Conf [SF, July 2016] : How Zipkin works @ Yelp

- Yelp Engineering Blog [Mar. 2016] : Distributed Tracing at Yelp

Education

2013-2015 **Master of Science, Computer Science**, *University of Texas at Austin*, GPA: 3.73/4.

2005-2009 **Bachelor of Technology (Hons.), Computer Science**, *Indian Insitute of Technology, Kharagpur (IN)*, GPA: 8.91/10.

Academic Achievements

- Was among the top 5% in the institute merit list of the undergraduate batch at IIT Kharagpur.

- Secured 383rd Rank in IIT-JEE 2005, an exam conducted by Indian Institute of Technology(s).