Surya Teja Palavalasa

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EDUCATION

National Institute of Technology, Calicut, *Kozhikode, KL*
Bachelors of Technology in Computer Science and Engineering *Jun. 2012 – Jul. 2016*
GPA: 8.04 / 10.00
Secured 99 percentile among 1.2 million students appearing for the entrance examination to NITs

Kakatiya Public School, *Visakhapatnam, India*
Higher Secondary Education *Apr. 2010 – Mar. 2012*
Percentage: 91.4%

PROFESSIONAL EXPERIENCE

Media.net (https://www.media.net/), *Bangalore, India*
Site Reliability Engineer 2 *Jul. 2016 – Mar. 2019*

- **Leveraging near real-time revenue reports to make canary builds intelligent**
  revenue-based A/B testing platform that tests the efficacy of newly developed features against revenue and reports them to the business and the development teams to assist in the decision-making process.
- **Improved observability of application by architecting distributed, scalable, lightweight, reliable systems**
  - Built a pipeline that calculates various application metrics like backend connection times, total response times, etc. and plots them in near real-time for performance tuning and debugging.
  - The pipeline involves pushing logs produced across serving into Kafka streaming service and developing a custom log compilation application in Golang to consume the logs and post the results to a graphing service.
- **Played a pivotal role in research and execution of container orchestration framework in production**
  - Deployed a container-based resource management system Kubernetes, evaluating various virtual networks such as Macvlan, Ipvlan, bridged, overlay for the container networking.
  - Contributed to the opensource implementation of the Netscaler ingress controller, a hardware-based load balancer, for load balancing the containers in the cluster.
- **Optimized Resource Utilisation by AutoScaling backend API Microservices**
  - Worked on auto-scaling a backend API using traffic patterns. Investigating traffic patterns and automatically scaling various layers independently, helped in optimizing resource utilization, resulting in cost reduction.
- **Miscellaneous**
  Responsible for architecting, maintaining service level agreement, performance tuning, and troubleshooting problems of multiple backend services at media.net, including a KeywordApi that returns relevant keywords based on context for a given URL, a BidApi that returns revenue predictions on a given keyword and URL for ad-slot bidding in real-time.

Embibe (https://www.embibe.com/), *Bangalore, India*
Software Intern *Apr. 2015 – Jun. 2015*

- **Cloud Infra Monitoring and Alerting system**
  - Deployed a pipeline to collect system metrics from the cloud infrastructure and alert anomalies, if any.
- **Miscellaneous**
  - Worked on fixing various bugs on the platform written in Rails, Angular-js.

ACADEMIC PROJECTS

Dynamically Scalable Explicit State Model Checker
Guide: Dr. Suresh Purini *Mar. 2019 – . current*

- Tackled state space explosion problem in explicit state model checking using consistent hashing.
- Employed actors for the mobility of State Space across virtual machines. In the case of memory pressure actors, the cluster incrementally expands, and the actors relocate to the new virtual machines.
- Compared the dynamically scalable cluster with the fixed static model. The dynamic, scalable model substantially decreases the cost of verification.

eXperimental Operating System(XOS),
Github link: https://github.com/Surya361/myxos *Aug. 2014 – Nov. 2014*

- A platform to develop a toy operating system, which supports multiprogramming, demand paging, XFS(experimental file system). It uses a custom-defined language called SPL(Systems Programming Language) to write the kernel and APL (Application Programming Language) for applications.
- The main aim of this project to get familiar with various data structures and hardware constructs used in operating systems.

Lottery Scheduler for MINIX,
Github link: https://github.com/Surya361/minix-exp-lottery/tree/surya *Dec. 2015 – Apr. 2016*

- A microkernel-based operating system that emphasizes reliability and security to performance. the scheduling policy of Minix from priority queue to lottery along with introducing necessary new system calls to modify the priority of a process by changing the number of tickets allocated.
- The main objective of the project is studying the tenets of a microkernel and work with a real-world operating system.

Miscellaneous

- Working on challenges from cryptopals.com Github: https://github.com/Surya361/cryptopals.
- Finalist for CTF conducted during CSAW'17.
- Worked as Student System Administrator for Software Systems Lab during undergraduation.

Technical Skills

Programming Languages: C, Golang, Python, Java
Frameworks: Kubernetes, Docker, Rails
Tools: Git, Linux, Jenkins, GCE, AWS