

Vinay S. Banakar

Systems Engineer
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Areas of interest

Systems (Architecture/Distributed/Consensus), Data management, Systems ML.

Research Experience

Systems Engineer

Hewlett Packard Enterprise R&D Labs
Software Defined Cloud Group (SDCG)
Advanced Development Group (ADG)
Fall 17 – Present

- Proposed and implemented “**Pre-emptive failure detection of operations using graph structure learning in datacentres**”, US patent successfully filed and also submitted for **TechCon’19**, Huston TX.
(Annual research conference of HPE)
- Contributed to Distributed Management Task Force (**DMTF**) Redfish standard as part of **Open Compute Project** research initiative.
- Helped develop **EBLAS** (Ethereum Blockchain Lab As a Service), a rapid application development and deployment platform for Ethereum DApps. with automated REST endpoints generated for smart contracts.
Presented at HPE World Wide Ambassador Summit’18, Dallas TX.
- Proposed and provided a new approach to quickly detect root cause and troubleshoot propagated issues in large scale datacentres “**Topology based root cause triangulation in datacentres**”, patent successfully filed.
- Helped design and build many features for OneView (A datacentre infrastructure management system), namely OS boot management, Dynamic BIOS registry support, Generic blade server management etc.
- Designed and built ServeFish, a simulator modelled to mimic server hardware operations enabling supportability of new servers by OneView.
Model design accepted and presented at **Technical Symposium’18 HPE**.

Research Intern

Hewlett Packard Enterprise R&D Labs
Converged Datacentre Infrastructure Team
Spring 17

- HostSim: proposed and implemented a virtual host simulation platform that mimics **ESXi** instances in a VMware **vCenter** cluster. Scaled up to 800+ simulated hosts which were leveraged for performance evaluation in OneView. Simulated instances also supported mock network configurations.
- Developed minor features for OneView for vCenter (OV4VC), a product with OneView datacentre management capabilities integrated directly into VMware vSphere suit.

Co-Founder

Fawkes Technologies
www.fawkes.xyz
Spring 17

SOLUX was a hardware-software IoT product that provided simple yet comprehensive solution to track, monitor, analyze and manage power generated by solar panels, it provided a complete overview of a consumer's energy consumption patterns, utensils status and proactive servicing.
Incubated in **YCombinator Startup School’17**, one among the top 7% global applicants to have graduated. Mentored by Dominika Blackappl.

Developer Intern

Signzy Technologies
www.signzy.com
Fall 16

- Developed company's product mail service API using Mandrill in **Nodejs**
- Built peripheral UI components with unit testing using mocha and jasmine
- Investigation in applications of digital smart contracts for KYC in real time.

Research Associate

Centre for Cloud Computing and Big Data (CCBD)
PESIT
Spring 15

- Advisor: Dr. K. V. Subramaniam
- “**High throughput image processing using GPU Enabled Apache Storm**”, proposed and developed minimal GPU support for Storm with jcuda and designed haar-cascade topology for face detection in images, we observed 6x throughput improvement between GPU and non GPU topology for processing 16000 raw images with 6 local worker nodes.
- Indian Premier League (Cricket) team score prediction using K-means clustering on **Spark** with 5 years of previous IPL data hosted on **HBase**.
- “**Cloud service automated documentation schema**”, an automated solution for documentation standard which generated XSD models, later verifies against document's XML to check for newness and legitimacy.
- Built offline package manager for MongoDB on Debian systems.

Awards and Accomplishments

- 2nd place at MyWired **Open hack** 2016, by Cowrks.
- 2nd place at SimpliHack'15, hackathon by **Simplilearn**. Named the best out of the box thinking award.
- Certificate of recognition by **Microsoft** – 2014, for demonstrating Excellency in windows app development.
- One of very few to have reached level 5 at **Google FooBar Challenge**, was offered interview by Google.
- Ranked among top 1% globally in **ProjectEuler**, a series of challenging mathematical problems intended to be solved with computer programs.
- Certificate of Appreciation – HPE RnD group 2018, for presenting at **Technical Symposium'18**
- Distinction Award at PESIT, Semester wise cash prizes for excellent academic performance.
- Acknowledged by **William Stallings** in *Preface* of the book "**Effective Cybersecurity**: Understanding and Using Standards and Best Practices" for my contribution, book release due June '18.

Patents and Publications (short titles)

- [1] **Topology based root cause triangulation of hardware issues in datacentres**
US patent pending.
- [2] **Pre-emptive failure detection of operations using graph structure learning in datacentres**
US patent pending, submitted for Techon'19.
- [3] **Dynamic infrastructure management for generic systems using Redfish**
Nominated for Defensive publication, accepted at Technical Symposium'18 HPE.

Education

PES Institute of Technology (PESIT), Bangalore

2013-2017

B.Eng in Computer Science and Engineering - CGPA: 8.26/10

Relevant Coursework: Advanced Algorithms, Data Structures, Computer Organization and Architecture, Operating Systems, Computer Networks, Digital Design, System Modelling and Simulation, Software Engineering, Network management, Analysis and design of Algorithms, Database Management Systems, Unix system Programming, Big Data Analytics, Applied Machine Learning.

KLE integrated PU College, Bangalore

2011-2013

Science, specialization in Electronics – PCME: 93%

Computer Skills

Intermediate: Java, Python, JavaScript, CSS, HTML, Node.js, Maven, Eclipse.

Basic: C, Golang, JQuery, Solidity, snmp, MySQL, PostgreSQL, Latex.

Contributions and communities

- **Open source contributor** for **Apache Ratis**, a java implementation of **Raft** consensus algorithm.
- Club Secretary – Toastmasters International, 2017.
- Volunteer for **Igniting Young Minds**, as part of the NGO every weekend we teach orphans and less privileged children basic education and life lessons and occasionally take them to field trips.
- Event conveyer of Ayana 2016, Annual open hackathon at PESIT.
- Head designer and web developer of **Aatmatrishah'15** (Annual techno cultural fest)
- Microsoft Student Ambassador, PESIT, 2015.
- Web development head and founding member of Entrepreneur-Cell (**E-Cell**) at PESIT, 2014.
- Helped organize hackathons: Endeavour'14, hackEye'14, Accsathon'14, #Code'16.
- Member Technical Staff at Ordell Ugo, PESIT, 2013.