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Aruna Sankaranarayanan

Education

08/2008 –
08/2013
Bangalore, IN

B.M.S.Institute of technology
B.Eng in Computer Science
80.6% (4th in my class)

Capstone Project
Advisor: Dr. Hemamalini B.H.
Automatic Reconfiguration for Large-Scale Reliable Storage Systems: Implemented a working prototype of a Byzantine fault tolerant system to help manage membership in dynamically changing networks.

Professional Experience

10/2016 – present
Bengaluru, IN

Systems engineer, Mapbox
- Built out over-arching infrastructure. Worked with AWS services to build home-grown redis caches; in a second run a year later, caches were containerised using Docker. Both projects resulted in huge cost savings - the first one resulted in a 90% cost savings and the second one in an additional 75% cost savings. Architected and built out cache-clearance systems and continuous build systems end-to-end.
- Implemented systems to migrate several TBs of data, with quality assurance, between production regions and migrated our stacks from a server-based infrastructure to a containerised infrastructure. Helped design new architecture for services and data processing systems, implemented them, and migrated consumer facing services and critical data processing systems to the new architecture.
- Designed, benchmarked, evaluated and deployed architecture that helped Mapbox to launch on Snapchat. Scaled our systems to receive 10X the traffic without a marked increase in the cost.
- Mentored several engineers and started JavaScript hours to teach programming to non-programmers.

10/2015 –
10/2016
Bengaluru, IN

Data engineer, Mapbox
Built open tools and analytics dashboards using JavaScript, HTML5, NodeJS and d3. Pre-processed and clean data going into the Mapbox search engine, Carmen. Implemented data tokenization, synonyms, filtering to improve quality of data. Implemented algorithms for ranking search results.

01/2014 — *08/2015* *Bengaluru, IN*	**Lead engineer, Scinamo** - Co-founded the engineering team. Our two member team implemented a virtual science world with over 30 games, quizzes and stories. The application took us a year to build and worked on all modern browsers. It was also converted into an iOS and Android app using PhoneGap and Cordova. - Implemented agile systems, version control, coding best practises and continuous integration systems. - Wrote articles for the in-house science magazine, *Brainwave*. - Mentored two software engineering interns.
08/2013 – *01/2014* *Bengaluru, IN*	**UI engineer, Fidelity Investments** Worked on the user interface of financial applications, using C#.
08/2013 – *01/2014* *Bengaluru, IN*	**Freelance writer, The Hindu** Wrote a fortnightly column, *The Edge*, in The Hindu. Articles were on developments in computer science and free and open source software. Estimated readership: ~22,330,000.

Research Experience

03/2018 – *present* *Remote*	**Research Affiliate, HAAS School of Business, UC Berkeley** Advisor: Dr. Abhishek Nagaraj Extracting geo-spatial data from the *OpenStreetMap* project to evince the causal effects of information seeding on follow-on contributions and contributions from new users.
06/2012 – *08/2012* *Bengaluru, IN*	**Research Intern, BMSIT** Implemented an algorithm to gauge real life sizes of objects in an image, based on the size of a static CD in the image, using openCV and Matlab. The algorithm used image processing techniques like region of interest isolation, segmentation and generating binary images to calculate the CD size in the image, and used it to calculate measurements of other objects in the image.
2012	**Participant, CSA Summer School, IISc** One out of 50 students, selected (by application) to attend a week-long summer school on research in computer science; IISc. Topics covered included research in Theoretical Computer Science, Image Processing and Distributed Systems, Bio-informatics etc.

Open source experience

12/2017 — *02/2018* *Trivandrum, IN*	**Consultant, ICFOSS** Conducted workshops to teach data extraction techniques from OpenStreetMap to female students in Kerala. Mentored 5 attendees from the workshop, over the next 3 weeks, to apply to the Outreachy internships funded by the *GNOME Foundation*.

10/2013 — 06/2015 Remote	**Developer, GCompris Project** Ported a set of activities from the legacy GCompris project in Python to the Qt-QML variant. Mentored students during the 2014 and 2015 cycles of the Google Summer of Code.
10/2012 — 10/2015 Remote	**Outreachy Intern, GNOME Foundation** Wrote technical and user documentation for the GNOME Foundation and fixed user interface bugs. Developed a comprehensive understanding of the XML based templating language, Mallard, used for documentation, and was funded to write a book about it at the *Google Documentation Camp, San Francisco* in 2014. Mentored newcomers.
04/2012 — present Remote	**Contributor, Wikipedia** I create and improve content on women to reduce the gender bias on Wikipedia. I also create and improve content related to Carnatic music.
06/2011 — 08/2014 Bengaluru, IN	**Contributor, FSMK** Volunteered and helped organise conferences to evangelise open source and teach the usage of open source libraries in engineering colleges in Karnataka. Taught Linux usage to housewives and children from the slums. Helped small shops and businesses move from MS Windows to Linux.

Talks, Workshops and Conferences

12/2018 Kochi, IN	Keynote at DebUtsav: *How can FOSS empower me?*
07/2018 Portland, USA	Full length talk at Monitorama: *SlackBots: Coordination through community*
04/2018 New York, USA	Full length talk at !!Con: *We built a flood map for Chennai in under 3 days!*
12/2018 Trivandrum, IN	Full length talk at Swatantra, on How can FOSS empower me?
05/2017 Bengaluru, IN	Full length talk at rootConf, on Spotswap: Running production APIs on spot instances.
07/2016 Bengaluru, IN	Full length talk at The Fifth Elephant: Reducing the World with JavaScript
11/2015 Delhi, IN	Lightning talk at OpenDataCamp: *The Gender Map*.
2014 & 2015 Dharamsala, IN	School program, Scratch workshop, Rubik's Cube workshop at hillhacks
12/2014 Chennai, IN	Lightning talk at Creative Maths and Science Communication Workshop, organised by IMSc: *Online games to aid science education*

08/2013 *Brno, CZ*	Lightning talk at GUADEC: *Why ducks are cool: Moving from Docbook to Mallard*

Independent Projects

OSM Mockingbird	Working on a Statistical Machine Transliteration [project](#) to transliterate street names in India from English to Indic languages. Using MapReduce algorithms in NodeJS to extract the street names from OpenStreetMap and the Moses Translation Engine for the actual transliteration. Tokenising, and syllabifying data from the Brahminet corpus, provided by IIT Bombay.
Internet Shutdowns	Helped design a [map](#) that visualises the scale of internet shutdowns in India, in partnership with Software Freedom Law Center, Delhi.
BMTC maps	Developed [scripts and visualisations](#) to analyse the bus network in Bangalore with a team mate from Mapbox. Built MapReduce scripts to extract the street network and analyse it. Used Mapbox Studio to visualise the results.
The Chennai Flood Map	Conceptualised and led the implementation of a [web map](#) to crowd source information about flooded streets in Chennai using Mapbox libraries. At peak usage, the app had ~200K users. The project has inspired similar projects by [MIT](#), and citizen led flood response movements in [Houston](#), [Dar es Salaam](#) and [Kerala](#) among others
Gendered Streets	[Analysis and visualisation](#) of the gender of eponymous street names. The street names were extracted from the OpenStreetMap project, and run through an NLP engine, NamSor.
Archiving music in the public domain	I am trying to [improve the visibility](#) of Indian classical music in the public domain by collecting such music from renowned artists, uploading my own recordings and finding music that is free of copyright. I have improved the number of such recordings on Wikimedia Commons from [0 to ~50](#).

Selected Press & Media

The Chennai Flood Map
[The Hindu](#), [India Times](#), [Business Insider](#), [The Times of India](#), [Firstpost](#), [Business Insider](#), [Geospatial Media](#), [Gadgets Now](#)

Gendered Streets
[The Atlantic](#), [SF Curbed](#), [Huffington Post](#), [Hyperallergic](#), [City Metric](#), [LiveMint](#), [The Ladies Finger](#)

Open Source
[FactorDaily](#), [LiveMint](#), [New Indian Express](#)

Extra curricular

1997 - present	Perform the *Thiruppugazh,* ancient Tamil Poetry, in the Carnatic style.