Abhishek Chanda

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Education

WINLAB, Rutgers University, USA
MS, Electrical and Computer Engineering **September 2010 – May 2013**

Bengal Engineering and Science University, India
BE, Computer Science and Technology **July 2004 –June 2008**

Professional Experience

Auth0 Inc., Lubbock, TX, USA
Senior Software Engineer II **December 2018 – present**
I work remotely as a part of the datastores team, we make it easier for Auth0's internal product teams to work with databases. Currently leading a team of engineers to deliver a system to migrate customer data from legacy Postgres databases to our new platform. In the past I worked on developing an internal kubernetes based PaaS to make service deployments easier.

DataSine Ltd., London, UK
Software Engineer **January 2017 – December 2018**
Worked remotely on the backend of the DataSine analytics platform, running a number of dockerized micro-services using Python. We used AWS as our cloud provider, services were deployed using Kubernetes. I was responsible for design and implementation of the data analytics API that serves machine learning models and overall devops strategy and implementation.

Dell EMC Inc., CA, USA
Principal Software Engineer **October 2016 – November 2016**
Joined Dell through EMC acquisition. Lead a team of two other engineers to integrate Openstack Magnum in the VxRack Neutrino product.

EMC Corporation, CA, USA
Senior Software Engineer **October 2014 – October 2016**
Joined the Advanced Technologies Division at EMC through Cloudscaling acquisition. As a part of the VxRack Neutrino project, I worked extensively on networking for virtual machines and containers using Neutron and other open source tools. Helped develop and deploy a micro-service based architecture to run Openstack on top of Docker containers and associated tooling.

Cloudscaling, CA, USA
Software Engineer **June 2013 – October 2014**
Involved in design and implementation of scalable networking solutions around OpenStack. I have worked on Neutron and Nova extensively, contributed code upstream and developed scalable architectures for Cloudscaling customers. Worked on Ruby and Python.

Huawei Technologies, CA, USA
Research Intern **June 2012 – December 2012**

- **Content Oriented Network Architecture:**
  Designed and implemented a Content Distribution Network based on OpenFlow. For prototyping, I wrote a cache in C++ and a TCP proxy in Python from scratch, used Open vSwitch as the forwarding engine and Floodlight as the controller. This work resulted in several publications and a patent.

WINLAB, Rutgers University, NJ, USA
Graduate Research Assistant **September 2010 – May 2012**

- **MobilityFirst (September 2010 – May 2012):**
  Designed a clean-slate architecture for the future Internet as a part of NSF sponsored Future Internet Architecture project. I was responsible for intra domain routing and transport architecture. We used C++ and Python code on NS3 to evaluate our design. This work has resulted in two paper publications and one poster presentation.
- **TerraPIN (January 2012 – May 2012):**
  Designed and prototyped a smart content distribution system based on smart phones. I have built a prototype on Android with the backend in PHP and SQLite.

Microsoft IT India, Hyderabad, India
Software Test Engineer **August 2008 – July 2010**
We re-designed Microsoft's existing product distribution system to make it more scaleable. Used .Net and SQL Server using C#.

Honours and Awards

Graduate Research Assistantship at Rutgers University **September 2010 – May 2012**

Implementation Skills

Programming languages
Go, Python, Rust, and Bash scripting.

Platforms and technologies

- Cloud computing using OpenStack, Docker, AWS, Kubernetes, Nomad etc.
- Infrastructure provisioning systems like Chef, Ansible etc.
- Network programming and distributed systems implementation on Linux and Unix
- Software defined networking and network function virtualization with OpenFlow using Open vSwitch and with OpenContrail.
- Virtualization using VirtualBox, KVM and Qemu.

Selected Publications

Abhishek Chanda "Network programming with Rust", *Packt*, 2018. `https://www.amazon.com/Network-Programming-Rust-memory-safety-concurrency-ebook/dp/B075Z3G2TC`

Abhishek Chanda, Cedric Westphal, "ContentFlow: Adding content primitives to software defined networks", *IEEE Globecom*, 2013.

Abhishek Chanda, Cedric Westphal, Dipankar Raychaudhuri, "Content Based Traffic Engineering in Software Defined Information Centric Networks", *IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)*, 2013.

Nehal Somani, Abhishek Chanda, Samuel C. Nelson, Dipankar Raychaudhuri, "Storage-Aware Routing for Robust and Efficient Services in the Future Mobile Internet", *IEEE International Conference on Communications (ICC)*, 2012.

Gautam Bhanage, Abhishek Chanda, Jun Li, Dipankar Raychaudhuri, "Storage-Aware Routing Protocol for the MobilityFirst Network Architecture", *17th European Wireless 2011 - Sustainable Wireless Technologies*, pp. 1–8, 2011.

Abhishek Chanda, Abhik Mukherjee, "A Hardware Authentication Architecture for Pervasive Devices", *Hack.In*, 2009.

Soma Bandyopadhyay, Nirupam Roy, Aritra Banerjee, Abhishek Chanda, Abhik Mukherjee and SS Barat, "RFID enabled navigation system of an autonomous robotic guide", *CSI Communications: Special Issue in Robotics*, Vol 32 No 8, pp 24–27, November 2008.

Poster and Demo abstracts

Abhishek Chanda and Cedric Westphal, "A Content Management Layer for Software Defined Information Centric Networks (demo abstract)", *Proceedings of the 3rd ACM SIGCOMM workshop on Information-centric Networking*, 2013.

Abhishek Chanda, Samuel C. Nelson, Gautam Bhanage, Dipankar Raychaudhuri, "ByPass: A Unified Transport Protocol for the Internet (poster abstract)", *HotMobile Poster Session*, 2012.

Abhishek Chanda, Samuel C. Nelson, Gautam Bhanage, Dipankar Raychaudhuri, "ByPass: towards an unified transport protocol for the internet (extended abstract)", *SIGMOBILE Mobile Computing and Communication Review*, 2012.

Patent

C. Westphal and A. Chanda, "Content Based Traffic Engineering in Software Defined Information Centric Networks", *US Patent App. 14/106,515*, 2014.

Conference talks

"OpenStack Scale-out High Availability: Scaling to 1,000+ Servers without Neutron"
`https://www.youtube.com/watch?v=p6_GcXh34wg`

"Helm and the zen of managing complex Kubernetes apps"
`https://www.youtube.com/watch?v=D0DiJfaSROw`