Senthil Kumaran

Senior Principal / Kubernetes/ Container Networking
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Skills

Programming Languages: Go, Python, Typescript, Lua, C, Java
Domains: Distributed Systems, Algorithms, Computer Vision, Machine Learning and Software Engineering
General: Software Design and Architecture.

Experience

Amazon EKS (Elastic Kubernetes Service)
- *Senior Systems Development Engineer, Tech Lead*   July 2021 – Current
I work on the Container Networking layer in the AWS Elastic Kubernetes Service.
- Amazon VPC CNI Plugin used by Kubernetes for IP allocation.
- Amazon VPC Resource Controller used for enabling security group feature for pods.
- Kube-Proxy, the Service proxy used by Kubernetes, and CoreDNS the name resolution service used by pods within Kubernetes.

D2IQ / Mesosphere
- *Staff Software Engineer, Tech Lead*   July 2016 – July 2021

- Designed the Development and Test workflow for DC/OS Distributed System based on Apache Mesos. Built and Lead the team writing tools for the software development and testing for DC/OS and Kubernetes. Wrote asyncio based software by name Mergebot and mergeservice utilized by all services at the company.

Twitter
- *Software Engineer*   2012 – 2015
- Tools for in-house build system called Pants, and deployment system called Packer.
- Developed applications in Java, and Python. Worked on Deployment tooling for Mesos.

Akamai
- *Senior Software Engineer*   2009 – 2011
- Designed and developed micro-service for log-collection pipeline in CDN.
- Designed and Developed Data Processing Pipeline Aggregator using Python. Developed a service called Lambda used for log collection and vertical grep for customer issue trouble shooting.

Dell
- *Software Engineer, Tech Lead*   2002 - 2008
- System software test automation using Python.

Open Source

CPython Core Developer.
Domain Expert and Maintainer of Internet and Networking Libraries in Python Programming Language's Standard Library.

Education

Masters of Science - Computer Science, Georgia Tech - OMSCS   2013-2019
Two Specializations - 1. Computational Perception and Robotics. 2. Software Systems

Bachelors of Science - Computer Science ,*National Engineering College, Kovilpatti, India*   1998-2002

USPTO Patents

System and method for downloading content associated with optical media
System and Method for Audiovisual Content Search
Obtaining user input for inclusion in system management logs
System and method for printer-based syndication

Industry Publications

Multi-Digit Detection and Classification using Convolutional Deep Neural Network, Gatech 2019

Computational Photography Project Portfolio - Gatech, 2019

Comma Free Codes lecture by Prof. Don Knuth

Using Log Messages and Alert Actions *Dell 2004*