Jyotish P

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Education

IIIT Hyderabad **Hyderabad, IN**
B.Tech(H) + M.S by Research in Electronics and Communication Engineering *2016–2020*
With specialization in Robotics
CGPA: 7.71

Work Experience

IIIT Hyderabad **Hyderabad, IN**
Student Systems Administrator *May 2017–Present*

- Responsible for maintenance and deployment of institute-wide infrastructure and services (Squid, LDAP, Email, lists, NS, CAS, PXE, etc), 802.1x over network, routing and firewall configuration serving ~3000 users.
- Automated server configuration for institute's **reverse proxy** server that serves over 150 domains.
- Automated one of the **mail server migration** to Google Suite.
- Deployed **transparent proxy** with SSL interception using **SNI parsing**.

Robotics Research Centre **Hyderabad, IN**
Systems Administrator *Mar 2018–Present*

Responsible for the maintenance and deployment of centre's high performance computing cluster and various services (Monitoring, NS, LDAP, Git, etc) of the centre.

Projects

Notable Projects

Neural Captioning Machine Learning | Computer Vision | NLP | Python | Tensorflow

- A combination of a CNN (trained on image net) and an LSTM networks that gives a caption for the given input image.
- Implemented different versions of the network by tweaking LSTM's architecture
  • Traditional LSTM • With attention • With sentinel gate.

Internet Relay Chat (IRC) Distributed Systems | Socket Programming | C++

- A simple implementation of IRC client-server in C++.
- Supports multiple chatrooms with multi-threaded backend.

Unrolling the Shutter Machine Learning | Computer Vision | Python | Tensorflow

- A Convolutional Neural Network that corrects the distortion caused due to rolling shutter of the camera from a single image.
- Tried different approaches to improve the results of the existing models.

Guest Accounts Management Python | Django

- Portal for automation of adding guests to institute's central LDAP

- Custom audits to restrict the logins of the guest users to access only the institute network but not rest of the services
- Automating account deletion from the LDAP.

Other Selected Projects

- **Transparent Proxy** that serves 2000 users. — Go
- **Accounts Management Portal** inspired from accounts.google.com. — Python | Django
- **Peer to Peer File Sync** A P2P file sharing and syncing client-server. — Python
- **Autonomous Navigation of Quadrotors** — ROS | C++ | Python
- **Reactive obstacle avoidance with Quadrotors** — ROS | C++

Research

Undergraduate Research

Guide: Dr. K. Madhava Krishna, Robotics Research Centre, IIIT Hyderabad
Areas: Motion Planning, Autonomous Navigation, Trajectory Optimization

Projects

- **Probabilistic Navigation under Non-Parametric Uncertainty**
  Mentor: Bharath Gopalakrishnan, Guide: Dr. K. Madhava Krishna
  - Characterizing robot and obstacle as noise samples from a non parametric distribution.
  - Moment matching of distributions using Reproducing kernel Hilbert space (RKHS).
  - Efficient implementation using reduced sets.

Selected Coursework

- Distributed Systems*
- OS and Algorithms*
- Principles of Information Security
- Programming Workshop
- Statistical Methods in AI
- Computer Vision
- Communication Networks
- Mobile Robotics
- Advances in Robotics

Skills

Programming/Scripting

Regular: C • C++ • CSS • JS • Matlab • PHP • Python • Shell
Familiar: Go • Java • Lua • MySQL • Ruby

Libraries/Frameworks

Robotics: Gazebo • OpenCV • ROS • Unreal Engine
Web: AngularJS • Django • Flask • Laravel • nodeJS • Rails
Machine Learning: PyTorch • Tensorflow • Torch

Systems

Nginx • Apache2 • LDAP • Postfix • Dovecot • Nagios • Icinga • Bind • Slurm • Docker • Libvirt
OpenVZ • Wazuh • Snort • Squid • iptables

Operating Systems

Linux • Windows