Prasad **Talasila**

Networker · Researcher · Software Developer · Educator

Storegade 24, 1 TH, 8382 Hinnerup, Denmark

(+45) 25385619, (+91) 8805754634 | prasad.talasila@gmail.com | prasad.talasila.in | prasadtalasila

Profile

- Postdoctoral researcher with focus on distributed storage technologies for IoT.
- Researcher with expertise in systems, networks and software development.
- Experience in creating usable software products based on research results.
- Thirteen years of teaching experience.
- Experience in the implementation and administration of the information infrastructure.
- Mentor to nine Google Summer of Code (GSoC) participants in 2015-2017 period.

Research Motto

Research on real-world problems to deliver reliable software solutions.

Software Development Motto

Agile (Extreme Programming) driven development with the goal of adopting DevOps compliant software development process.

Teaching Motto

Socratic style hands-on instruction with equal emphasis on conceptual and practical learning.

Research

My current research work focuses on developing scalable storage technologies for Internet of Things (IoT) systems.

My doctoral research proposes a new network / graph model named Cell Model for the analysis of multidimensional (multi-relational) networks. The cell model is a more general graph model; normal graphs, online social networks, graph-centric computing frameworks such as Giraph are all special cases of the cell model. The cell model has been applied to multi-modal (flight + train + bus) transportation networks. We have also applied the cell model to creating a concurrent protocol analyzer.

We have also utilized the analytical methods of network science, text mining and statistics fields to propose an analysis framework for online communities such as IRC channels and mailing lists. publications

Research Interests

Distributed Storage Technologies, Educational Technologies, Network Measurements, Public Transit Networks and Online Social Networks

Software Development

I conceived, architected and continue to co-develop the following open-source software tools. web

AutolabJS

web code releases

Auto evaluation software for programming projects and assignments. *January 2015 - TILLDATE*

- Supports C, C++, Java and Python programming languages.
- Capable of utilizing different testing strategies (unit, integration, functional tests and I/O tests).
- A client software named autolabcli to interact with AutolabJS evaluation server.
- Technology Stack: Node.js, Docker, Ansible

IRCLogParser

web code releases

Analysis and visualization of real-time online chat communities like IRC channels. *January 2016 - April 2018*

- Observe online social network structure using IRC chat logs.
- Uses analytical models from statistics, network science and data mining fields.
- Technology Stack: Python with igraph and NetworkX, Natural Language Toolkit

Darshini

code releases

A modular, concurrent and customizable data network protocol analyzer. *August 2014 - May 2017*

- Concurrent protocol analysis using the Cell Model.
- Collaborative network protocol analysis software.
- Technology Stack: Java SE 7, Spring4.1 in Tomcat7, Elastic Search

TransportScheduler

web *code* *releases*

Concurrent search on schedules of public transit networks for travel itineraries. *August 2015 - May 2018*

- Provide search service for travelers using multi-modal transit networks.
- Uses Elixir's Actor framework to implement the transit search algorithms inside the Cell Model.
- Technology Stack: Elixir 1.5 on Erlang OTP 21.0

Work Experience

Agile Cloud Lab, Communications Group, Aarhus University

Aarhus, Denmark

PostDoctorate Researcher *June 2018 - PRESENT*

- Research new techniques for efficient storage of IoT data in cloud.
- Conceive and implement the IT infrastructure for the Agile Cloud Lab.
- Create software prototypes to demonstrate the research results coming out of the lab.

Department of CS & IS, BITS, Pilani - KK Birla Goa Campus

Goa, India

Researcher & Assistant Professor *June 2012 - May 2018*

- Co-develop open source software solutions based on research results. The software solutions are available on GitHub.
- Architect and co-develop AutolabJS project evaluation software for evaluating software projects. The evaluation software integrates git system and is capable of using all types of software testing techniques.
- Mentor to undergraduate students in improving software development skills. Nine of the mentored students ultimately became Google Summer of Code participants in the 2015 – 2017 period.
- Develop and teach course work on Object Oriented Programming and Internetworking Technologies.
- Implement innovative teaching practices such as inverted teaching in classes and pair programming in programming labs.

Departments of CS & IS and ECE, RVR & JC College of Engineering

Guntur, India

Assistant Professor *November 2005 - May 2012*

- Lead coordinator and administrator for the implementation of IT systems at RVR & JC College of Engineering in 2009 to 2011 period. The IT systems developed and deployed in that two year period has served 6,200 courses and 12,000 students in 2009 – 2017 period.
- In-charge of lab equipment procurement for 2008 – 2009 period. Responsible for purchase of equipment for all the electronics and communications labs.
- Teach courses on Unix Programming and Computer Networks.

Education

BITS, Pilani - KK Birla Goa Campus

Zuari Nagar, Goa, India

PhD. in Computer Science *Aug. 2013 - May 2018*

Acharya Nagarjuna University

Guntur, Andhra Pradesh, India

M.Tech. in Computer Science and Engineering, Distinction, Percentage: 78% *Sep. 2007 - July 2009*

BITS, Pilani - Pilani Campus

Pilani, Rajasthan, India

B.E. (Hons) in Electronics & Instrumentation, Distinction, CGPA: 9.06 / 10% *Aug. 1997 - May 2001*

Honors & Awards

2011	**Grant**, AICTE Staff Development Programme on Linux Programming	*Guntur, India*
2010	**Fellowship**, National Internet Exchange of India (NIXI) Fellowship	*New Delhi, India*
2001	**Scholarship**, Merit-cum-need scholarship for entire duration of undergraduate studies	*Pilani, India*

Presentations

Goa Engineering College

Goa, India

Presenter for TEQUIP faculty training programme *14 January 2016*

- One day long training on Content Delivery Networks.

Xerox Research Centre India

Bengaluru, India

Invited Talk on Transit scheduling algorithm for multimodal networks *8 January 2016*

- Overview of transit scheduling algorithms for multimodal transit networks.
- Presentation of research results from my doctoral work.

National Convention for Academics and Research (NCAR)

Hyderabad, India

Tutorial on MOODLE Learning Management System *16 December 2010*

- Presentation of implementation strategies for adopting Moodle learning management system.
- Tutorial on administration of Moodle.

Writing

Advanced Unix Programming

RVR&JC College of Engineering, Guntur, India

Course Instructor — *2010 – 2012*

- Course notes and lab material on shell and UNIX systems programming.

Ramblings on Education

RVR&JC College of Engineering, Guntur, India

Autor — *2011*

- State of undergraduate engineering education and possible means for improvement.

Professional Praise

Research Feedback from Reviewers

- The [doctoral] thesis is written very well. –Prof. Anil Maheshwari (of Carleton University, Canada) as thesis examiner
- [On BITS Darshini] A well-defined architecture for analyzing packets via well-known parse graph techniques, with special attention paid to improving the process throughput by careful parallelization of the pipeline.
- The paper analyses Indian Railway network...This is a very interesting and important problem. Such studies on Indian Railways are very rare.
- I believe and agree with the authors that the problems presented are relevant and well formulated.
- The paper deals with a real-world problem. The paper is systematically structured and clearly written...In summary, an interesting paper.
- Their evaluation strategy of picking up random stations and random start times is good.
- Interesting data set collected. Good visualization of the data. Analysis of the results is interesting.
- Overall, the paper is well written using simple language.
- The work is very interesting and the visualization of AS topology change is interesting to see.

Feedback on Projects

- This [Autolab] is a very good initiative. I found you to be quite exploratory when it comes to usage of new techniques to teach a course. That's very good- I would like to know this more from you. Autolab can ease our burden of evaluation.
  – Prof. Santonu Sarkar, Professor, Department of CS&IS, BITS Pilani - KK Birla Goa Campus
- AutolabJS was one of the most defining projects for me till my fourth year and this project single handedly taught me more about software design than anything else.
  – ex-participant in AutolabJS project
- Your style of project mentorship is very good. I liked it.
- I want to thank you from the bottom of my heart for shaping me into the individual I am today, during my formative years at BITS from 2013-2017.

Feedback on Teaching

- You showed me the light in a very dark time. And I'm extremely thankful for that. I think that it is tremendously important for a teacher to know what impact he has on students. Sir, you've had one hell of an impact.
- One of the most charismatic instructors who has taught me. The main job of an instructor is to arouse interest in a student and he is one of the few who does that.
- Exceed expectations. –BITS Annual Performance Review
- One of the best courses I've ever taken. The efforts the instructor takes to make the course engaging are unparalleled. The projects were very interesting.
- Practical application-oriented teaching
- Excellent talent and communication skills
- Focus on courses by good instructors like ...TSRK sir. They'll make you work harder than you'll ever have, but if you're interested in learning, it's the best thing you can do for yourself. –Anonymous Review on BITS Goa Students Facebook Page
- He makes constant effort to make us write good, clean and understandable code, i.e., to become a good software engineer.
- Amazing course structure and teaching methodology. Love the resources and the way words are phrased. Beautiful.
- Extremely well structured course.
- Internetworking Technologies is the best course I have taken at BITS by far. The best part was that I got to learn a variety of interesting and practical things in this course. Everything about this course is almost perfect.
- Different teaching methods were used and were very effective. One of the best courses offered by the campus.
- Having worked in different situations, this [Internetworking Technologies] course is one of the closest to actual work in the industry and in research and is highly useful to students who wish to be involved in this field.
- You had recommended that we read the Clean Coder. Through your recommendation you showed me the light in a very dark time. And I am extremely thankful for that. I think it is tremendously important for a teacher to know what impact he has on students. Sir, you had one hell of an impact.
- Thanks for the OOP [Object Oriented Programming] course. I have learnt a lot from your classes, both code and life lessons.
- You had sat with me through my 4 hour struggle in A-200 [lab] that evening against the conventional 2-hour lab timing, and I cannot thank you enough. I realise the trivialty of the question I'm referring to, just needed an instance to quote the impact your efforts have on your students. I haven't met many professors half as dedicated to systematic teaching, so this is just a thank you note from an old student.
- I found OOP to be a really good course. I'd like to once again thank you for this wonderful OOP course.
- I took Internetworking Technologies as an elective in 4-1. Apart from an interesting course structure, the course was handled really professionally. The best thing about the course was its stress on various upcoming technologies and data center architectures. There was a lot of

emphasis on applying the theory learnt in practical scenarios, through interactive assignments. The course also involved study of research papers in contemporary field , which in itself was a learning experience. All in all, it was a great course, though it requires a certain amount of effort by the student.

- TSRK is amazing
- TSRK sir teaches very well
- TSRK Prasad is an excellent teacher
- The project evaluation component is very good and lot more could be learnt.
- Tutorials have been really helpful.
- Course organized perfectly.
- Prepares well for the class
- Hardworking and talented
- Brilliant person with loads of knowledge
- super knowledge in the subject
- Outstanding technical content [in the class]. He is a genie for sure.
- King of knowledge
- Vast knowledge and good teaching skills; [has] strong determination and patience.
- He is really good at answering all in classroom doubts; allows for deep understanding of the subject. He is an excellent teacher.