



Rekha Rama Pai

Personal Profile

Date of Birth	19 May 1981
Sex	Female
Marital Status	Single
Languages Known	English, Malayalam, Hindi, Konkani
Citizen	India

Education

2009–current	Research scholar , <i>National Institute of Technology Calicut</i> , Kerala, India.
2007–2009	M.Tech in Computer Science and Engineering , <i>National Institute of Technology Calicut</i> , Kerala, India, <i>CGPA: 9.21</i> .
1998–2002	B.Tech in Computer Science and Engineering , <i>Kerala University</i> , Kerala, India, <i>First Class with Distinction</i> .

Research

Area of interest	Program Analysis and Transformation.
Current work	My current work is detection and elimination of redundant computations in programs. For this purpose, I have studied the theoretical concepts of Data-Flow Analysis. And later I investigated the literature for the concepts of finding value equivalent expressions in a program for the purpose of detecting redundancies. Currently I am working on an idea to detect <i>value equivalent</i> computations in programs.

Master thesis

Partial Redundancy Elimination.

Abstract	My work was on Partial Redundancy Elimination. We studied the best algorithms for Partial Redundancy Elimination (PRE). An algorithm was proposed in the process to remove partial redundancies based on <i>lexical equivalence</i> of expressions. The algorithm proposed is based on the concept of <i>Safe Partial Redundancy Path</i> .
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Conferences/Schools Attended

Summer School Second International Summer School on Trends in Concurrency, TiC'10, IIT Bangalore, India. 23 May 2010 – 29 May 2010.
Essential Abstractions in GCC '12, IIT Bombay, India. June 30 - July 03, 2012.

Experience

Teaching Assistant

2009–current **National Institute of Technology Calicut.**

- Delivered lecture on “Foundations of Data Flow Analysis” for Graduate level students. 2011, 2012.
- Programming Languages Lab for Undergraduates. 2010, 2011, 2012. This lab involved implementation of Untyped and Typed Lambda Calculus and its variants. The interpreter for these languages are written in Ocaml.
- Programming Lab for Undergraduates. 2011, 2012. This lab course involved techniques to control intellectual complexity of programs - in particular, procedural abstraction, data abstraction, and modular design.
- Compiler Lab for Undergraduates. 2010, 2013. This lab course involved implementation of a Simple Intermediate Language (SIL) designed in-house for the purpose. This language has minimal features.

Lecturer

Sept 2006–July 2007 **College of Engineering, Perumon, Kerala, India.**
Offered the course on Computer Networks.

Lecturer

Feb 2004–Aug 2006 **Co-operative Institute of Technology Vadamakara, Calicut, Kerala, India.**
Offered courses on Analysis and Design of Algorithms, Software Engineering.

Other activities

Part of the design team for the website for Department of Computer Science and Engineering, National Institute of Technology Calicut. <http://cse.nitc.ac.in/>

Got a score of 89.9 (out of 97) for Compilers course offered by Prof. Alex Aiken, April through June 2012, as part of Stanford University Coursera program.

Independently designed and developed website for Secure Computing Lab, Dept. of Computer Science and Engineering. The website was developed on Drupal 7, which entailed minor PHP coding. The website can be accessed at <http://scl.cse.nitc.ac.in>

Gave a lecture on *Compiler Construction: An Overview* as part of *TeQIP* funded one day workshop at College of Engineering Vadamakara. March 2013.

Currently am Research Affairs Secretary, NIT Calicut ACM Student Chapter.

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Reference

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