# Pallavi Maiya H P

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## EDUCATION

Indian Institute of Science, Bangalore, PhD. (pursuing)
Computer Science and Automation, 2011 onwards
Research advisor: Dr. Aditya Kanade
CGPA: 6.3/8. (PhD Coursework)

National Institute of Technology, Karnataka, Surathkal, B. Tech.
Information Technology, 2007-2011
CGPA: 9.02/10.

Canara Pre - University College, Mangalore
Karnataka Pre - University Board, 2007
Aggregate: 92.67%  Physics-Chemistry-Mathematics Aggregate: 97.66%

## RESEARCH INTERESTS

My interests lie broadly in the areas of Progam Analysis, Automated Testing and Verification. Currently, I'm working on concurrency modeling and developing concurrency testing tools for multithreaded and asynchronous systems.

## PUBLICATIONS

Pallavi Maiya, Aditya Kanade and Rupak Majumdar. *Race Detection for Android Applications*. To Appear, 35th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), 2014.

## SELECTED PROJECTS

- Built a tool called DROIDRACER, a dynamic offline race detection tool for Android applications. DROIDRACER has been built by instrumenting and modifying Android library, Dalvik VM and native code of Android 4.0. It has been tested on open source and proprietary Android applications including popular applications like Facebook, Twitter and K-9 Mail. It has detected several data races in the tested applications including a few leading to anomalous behaviours. (2013)
- Developed an automated UI explorer for Android applications. It generates and exercises UI event sequences systematically with backtracking. This was used as a component in the implementation of DroidRacer, a dynamic data race detection tool for Android applications. (2013)
- Wrote a backend for compiling C to x86-64 architecture using LLVM compiler infrastructure and IBURG, as part of the Compiler Design course (E0 255) at IISc. The output of the backend is an assembly (.s) file compatible with the gcc tool chain. (2012)
- Implemented an intra-procedural data-flow analysis for detecting null dereference bugs in Java programs using Soot analysis framewok, as part of the Program Analysis and Verification course (E0 227) at IISc. (2011)
- B.Tech Major Project on "Image Search Based on Textual Semantics and Features Extracted from Images"under Prof. Ananthanarayana V S, NITK Surathkal. The search engine developed was demonstrated on datasets obtained from Flickr, with DBpedia as the semantics knowledge base. (2011)

- Development of a module for Moodle Learning Management System to manage and carry out course level projects online, under Prof. N J Rao, IIIT-Bangalore. (2009)

## INTERNSHIP

- Interned under Prof. Rupak Majumdar at Max Planck Institute for Software Systems. (May - July 2013).
- Interned at Microsoft India Developement Center. (May - July 2010).

## TEACHING

Teaching Assistant for Program Analysis and Verification (Fall '13) and Automated Verification (Spring '13).

## ACHIEVEMENTS - EXTRACURRICULAR ACTIVITIES

- $4^{th}$ place in Asian U-14 Girls Chess Championship in the year 2003.
- Won various Girls category Karnataka State Level Chess Championships between 2002 and 2005, and had a FIDE rating of 1990 when discontinued playing in tournaments.
- Coordinated a village development project called "Sparsh – Munda Development" Project taken up by the students of NITK-Surathkal, in 2009-11. Under this project we had implemented working solution for saline drinking water and infrastructure related problems in a village named Munda in Dakshina Kannada district of Karnataka (India).
- Convener of Socially Conscious Engineering Committee of ENGINEER 2011 – the annual national technical symposium of NITK, Surathkal.