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**OBJECTIVE**

Seeking a challenging full time position in the areas of software, security test engineering, verification and validation, and reliability engineering.

**EDUCATION**

Aug 07 - Current	<b>Ph.D ( Computer Science)</b> North Carolina State University, Raleigh, USA Advisor : <b>Dr. Mladen Vouk</b> <b>(Expected Graduation – Spring 2011)</b>	GPA: 3.5 / 4.0
Jan 06 - Aug 08	<b>Master of Science in Computer Science,</b> North Carolina State University, Raleigh, USA Advisors: <b>Dr. Mladen Vouk, Dr. Tao Xie</b>	GPA: 3.5 / 4.0
Aug 99 - May 03	<b>Bachelor of Engineering (Computer Science)</b> Coimbatore Institute of Technology, India	Aggregate: 88%

**EXPERIENCE SUMMARY**

May 10 – Aug 10	Intern	NetApp, Raleigh.
Jan 09 – Current	Graduate Research Assistant	Advisor: Dr. Mladen Vouk, NC State University.
May 08 – Aug 08	Intern	ABB US Corporate Research Center, Raleigh.
Jan 07 – Dec 08	Graduate Teaching Assistant	NC State University, Raleigh.
May 07 - Aug 07	Intern Engineer	Ericsson IP Infrastructure Inc, Raleigh.
May 06 – Dec 06	Graduate Research Assistant	Advisor: Dr. Tao Xie, NC State University
Jan 06 – May 06	Network Lab Administrator	NC State University, Raleigh.
Jul 03 – Dec 05	Development Test Engineer	Cisco Offshore Development Center, India

**RESEARCH**

- **Reliability and Security analysis of Open Source software systems** - Modeling and evaluation of open source security as a reliability engineering process.
- **Mining Software Repositories** – Automated mining of linked information across repositories.
- **Prediction of Open Source project behavior** – Analysis of user participation in open source projects and prediction of defect correction based on user involvement in correcting defects.

- **Aspect Oriented Testing and Refactoring** - Design and development of automated techniques and tools for Software testing and verification of Aspect-Oriented programs, and Aspect Oriented Refactoring.

## PUBLICATIONS

1. **Towards a Bayesian Approach in Modeling the Disclosure of Unique Security Faults in Open Source Projects.**  
Prasanth Anbalagan and Mladen Vouk  
*21st International Symposium on Software Reliability Engineering 2010 (ISSRE 2010)*
2. **Towards a Unifying Approach in Understanding Security Problems from a Reliability Perspective**  
Prasanth Anbalagan and Mladen Vouk  
*20th International Symposium on Software Reliability Engineering 2009 (ISSRE 2009)*
3. **Empirical Study of Security Problem Reports in Linux Distributions (short paper)**  
Prasanth Anbalagan and Mladen Vouk  
*3rd International Symposium on Empirical Software Engineering & Measurement 2009 (ESEM 2009)*
4. **On Predicting the Time taken to Correct Bugs in Open Source Projects (short paper)**  
Prasanth Anbalagan and Mladen Vouk  
*25th IEEE International Conference on Software Maintenance 2009 (ICSM 2009)*
5. **"Days of the Week" Effect in Predicting the Time Taken to Fix Defects (short paper)**  
Prasanth Anbalagan and Mladen Vouk  
*International Workshop on Defects in Large Software Systems 2009 (DEFECTS 2009)*
6. **On Mining Data across Software Repositories (short paper)**  
Prasanth Anbalagan and Mladen Vouk  
*6th IEEE Working Conference on Mining Software Repositories 2009 (MSR 2009)*
7. **Security Failure Estimation for Open Source Software: An Empirical Approach**  
Prasanth Anbalagan and Mladen Vouk  
*1st Workshop on Dependable Software Engineering 2008 (WDSE 2008)*
8. **On Reliability Analysis of Open Source Software Systems – FEDORA (student paper)**  
Prasanth Anbalagan and Mladen Vouk  
*19th IEEE International Conference on Software Reliability Engineering (ISSRE 2008)*
9. **Automated Generation of Pointcut Mutants in Testing Pointcuts in AspectJ Programs.**  
Prasanth Anbalagan and Tao Xie  
*19th IEEE International Conference on Software Reliability Engineering (ISSRE 2008)*
10. **Automated Inference of Pointcuts in Aspect-Oriented Refactoring.**  
Prasanth Anbalagan and Tao Xie.  
*International Conference on Software Engineering (ICSE 07), May 2007*
11. **Efficient Mutant Generation for Mutation Testing of Pointcuts in Aspect-Oriented Programs**  
Prasanth Anbalagan and Tao Xie.  
*Workshop on Mutation Analysis (Mutation 06), November 2006.*
12. **Clamp: Automated Join point Clustering and Pointcut Mining in Aspect-Oriented Refactoring**  
Prasanth Anbalagan and Tao Xie,  
*ACM SIGSOFT Symposium on Foundations of Software Engineering (FSE 14), Poster Session.*
13. **Automated Testing of Pointcuts in AspectJ Programs**  
Prasanth Anbalagan and Tao Xie,  
**Semi-finalist at ACM SIGPLAN Student Research Competition, OOPSLA , Oct 2006.**

- 14. Apte: Automated Pointcut Testing for AspectJ Programs,**  
Prasanth Anbalagan and Tao Xie.  
Workshop on Testing Aspect-Oriented Programs (**WTAOP 06**), July 2006.

## TEACHING EXPERIENCE

**Graduate Teaching Assistant - Management Decision Control Systems** Jan 08 – May 08

Department of Computer Science, North Carolina State University

- Assist instructor with grading assignments, exams, and projects. Tutor students requesting additional information on course materials. Guide students with the course project.

**Graduate Teaching Assistant - Software Engineering** Aug 07 – Dec 07

Department of Computer Science, North Carolina State University

Aug 08 – Dec 08

- Assist instructor with grading assignments, exams, and projects. Tutor students requesting additional information on course materials. Guide students with the course project.

**Graduate Teaching Assistant - Ecommerce- Practicum** Jan 07 – May 07

Department of Computer Science, North Carolina State University

- Assist students in their projects with our corporate partners – CISCO, IBM, RAND, SYMANTEC

## INDUSTRIAL EXPERIENCE

**Intern** May 10 - Aug 10

NetApp, Raleigh.

- Analysis of the current trend in the testing of storage products for NetApp and its competitors in the Data warehouse/ Decision support system environment, Identification of the areas of improvement for NetApp, and building of a generalized framework to support testing and demonstration of NetApp products including customer proof-of-concepts, trade shows, etc., in a Data warehouse/ Decision support system environment.
- A data warehouse / decision support system load generation tool designed to create real world profiled loads including business intelligence, online transaction processing, ETL (Extract, Transform and Load) and mixed types of workload. .

**Intern (Integrated Software Systems Group)** May 08 - Aug 08

ABB US Corporate Research Center

- Architecture based reliability analysis for Event-based Software Architecture.
- Development of OPC Client applications for performance monitoring of ABB Industrial automation system

**Intern Engineer (System Integration and Function Test)** May 07 - Aug 07

Ericsson IP Infrastructure Inc

- Function testing of OSPF-v2 peer scalability, OSPF-v3, IS-IS protocol features on Integrated Site Edge Router (ISER).

- Test Automation of OSPF-v2, OSPF- v3 and IS-IS routing protocol features for ISER.

**Network Lab Administrator**  
**North Carolina State University, Raleigh, NC**

Jan 06 – May 06

- Administration of Network labs, Department of Computer Science and Department of Electrical and Computer Engineering.
- Maintenance and Troubleshooting of Cisco Access Points, Solaris, Windows servers, and Cisco 1900 switches

**Development Test Engineer**  
**Cisco Offshore Development Center, Chennai, India**

Jul 03 – Dec 05

- Development & maintenance of Cisco proprietary Automated Regression Tool
- Development testing of Cisco 83x series routers.
- Automation of wireless features for the Cisco dual band wireless Access Points

## ACADEMIC PROJECTS

- **Research Papers**

1. **Integrating Static and Dynamic Analysis to Improve Automated Unit Test Generation** submitted as a requirement for course project for CSC 510- Software Engineering
2. **Identity based Multi signature and Multi encryption scheme with user mediated RSA** submitted as a requirement for Computer & Network security course project.

- **Projects**

1. **Decaf Compiler**  
Design and Implementation of Compiler for DECAF (subset of JAVA)
2. **Design and Implementation of a Multiuser Database System.**
3. **User level multi processor threads library** in C.
4. **Timed Automata Model of Therac 25** - Design and analysis of a timed automata model for Therac 25, a radiation therapy software system
5. **Theorem Proving Machine**  
Discrete Mathematical tool that arrives at the conclusion from given premises.
6. **Vedic Math Processor**  
Design of a Mathematic Computing machine that performs arithmetic operations by using formulas from vedic mathematics.

## SERVICE AND ACTIVITIES

- **Vice President** (Fall 09 – Spring 2010)  
Computer Science Graduate Student Association, NCSU
- **General Chair**  
Symposium for Graduate Research 2009, Department of Computer Science, NCSU.
- **Treasurer** (Fall 08 – Fall 09)  
Computer Science Graduate Student Association, NCSU
- **At-large Officer** (Fall 07 - Fall 08)  
Computer Science Graduate Student Association, NCSU

- **Departmental Ambassador** (Fall 08 – Fall 09, Fall 09 - Current)  
Department of Computer Science, NCSU.
- **External reviewer** for WODA 2006, AOSD 07, ISSRE 2008
- **Student volunteer** at OOPSLA' 06

## COURSE WORK

- **Systems** Computer Networks, Operating Systems, Network Security, Software testing, Software Engineering, Software Verification, Database Management System, Statistics for Biological Sciences I
- **Theory** Design and Analysis of Algorithms, Compiler Construction, Computer Performance Modeling

## SKILL SET

- Languages: Java, AspectJ, TCL, C, C++
- Protocols: RIP, OSPF, EIGRP, IS-IS, BGP
- Tools/IDE: IXIA (IxNetwork, IXExplorer), Eclipse, JUnit, Rational Software Architect, UPPAAL
- Certifications Cisco certified Network Associate (**CCNA**),  
Building Scalable Cisco Inter networks (**CCNP- Routing**)

## AWARDS & HONORS

- **Semi-finalist** at **ACM SIGPLAN Student Research Competition**, OOPSLA 2006 , Oct 2006
- **ACM SIGPLAN Student Research Competition scholarship**, sponsored by Microsoft Research, OOPSLA 2006
- [NCSU Department of Computer Science 'Research Assistant' scholarship for doctoral research, 01/09 - Current](#)
- [NCSU Department of Computer Science 'Teaching Assistant' scholarship for doctoral research, 08/07 - 12/08](#)
- [NCSU Department of Computer Science 'Research Assistant' scholarship for doctoral research, 01/09 – Current](#)
- Received **SPARC Award (Customer Satisfaction) five times** recommended by CISCO Systems, Inc for achieving high level of customer satisfaction.
- Awarded **First Prize in project presentation** (Project: Theorem Proving Machine) held by Computer Science & Engineering association, Coimbatore Institute of Technology, India.
- Awarded Certificate of Merit for securing an **overall Rank of 3** out of 69 students (under graduate studies).