PRANAV ASHOK

PERSONAL INFORMATION

Born in India, 30 December 1991

email pranavashok@gmail.com

website pranavashok.name

GOAL

To use science as a tool to study and understand the universe in its fullest sense and to apply the scientific method to solve problems which have a large reach.

WORK EXPERIENCE

2013–2014 **Associate Member of Technical Staff, Commvault**

Commvault Systems, India

Worked on hardware based snapshot technologies for enterprise level Storage Area Networks.

2012 **Summer Intern, Arbitron**

Arbitron, India

Worked on a Training Management System using JavaServer Faces 2.0, a web application framework.

2011 **Chief Web Developer, Tathva and Ragam**

Technical/Cultural Fests of NIT Calicut

Worked on three websites from scratch, which included the newest of developments of the time — CSS3 animations and HTML5 canvas as well as extensive use of jQuery.

EDUCATION

Sep 2016 — **Technical University of Munich**

Doctoral Student

Foundations of Software Reliability and Theoretical Computer Science

2014-2016 **Chennai Mathematical Institute, India**

Masters

MSc in Computer Science · *Analysis of the backward reachability problem in Probabilistic Timed Automata* · GPA: 8.75

2009-2013 **National Institute of Technology, Calicut, India**

Bachelors

B. Tech in Computer Science and Engineering · GPA: 7.72

COURSEWORK

Masters

Logic Automata and Games, Probability and Statistics, Programming in Haskell, Game Theory, Complexity Theory, Infinite Discrete Structures, Quantitative Automata Theory, Model Checking and Systems Verification, Implementation of Functional Languages, Design and Analysis of Algorithms, Programming Language Concepts, Mathematical Logic, Discrete Mathematics, Theory of Computation

Electives during Bachelors

Combinatorial Algorithms, Computational Intelligence, Advanced Topics in Algorithms, Quantum Computation, Web Programming, Introduction to Robotics

SELECTED PROJECTS

2015 **Backward Reachability Algorithm for PTAs**

Masters Thesis

Title · Analysis of the reachability problem for probabilistic timed automata.
Advisor · Prof. B Srivathsan
Description · We analyzed the existing reachability algorithms for Probabilistic Timed Automata and proposed an improvement for the backwards analysis approach. We tested the improvement on the PRISM Model Checker and discovered that our implementation performs better than PRISM's backwards engine and in-par with the existing algorithms for most test cases.

2013 **Music Composition using Probabilistic Analysis**

Final Year, Major Project

Technologies · *Python 2.7, GIT Revision Control*
Description · Analyses one or more MIDI files and generates a Prediction Suffix Automata using which music on the same scales or Indian classical raagas may be generated. Worked under the supervision of Prof. Murali Krishnan K.

2012 **Hand Gesture Recognition**

Third Year, Mini Project

Technologies · *C++, OpenCV*
Description · An application which recognizes hand movements in a video stream and simulates keypresses – enabling to play games using movement gestures.

Additional Note

The source-code for most of the projects I have done in public domain is available in my GitHub repository · Pranav Ashok (pranavashok) on GitHub

WORKSHOPS / CONFERENCES ATTENDED

December 2015 FSTTCS 2015, IISc Bangalore

January 2015 Universalization of Good Quality Science Education, Pune

December 2014 Creative Mathematical Sciences Communication, IMSc Chennai

CAPABILITIES

Advanced C, HTML/CSS, Adobe Photoshop, Linux

Intermediate C++, PHP, SQL, PYTHON, JAVA, JAVASCRIPT, HASKELL, LaTeX, Git Version Control

OTHER INFORMATION

Vocational Interests

Algorithm Design, Automata Theory, Verification, Functional Languages, Systems, Inter-disciplinary Sciences, Human-Computer Interaction, UI and UX Design, Web Development and Coding in general

Other Interests	Popularizing Science, Open Knowledge, Playing Violin, Automobiles, Exploring Places, Amateur Photography
Published Articles	'Are rational numbers countable?' (translated) in the science magazine, *Teacher*, published by Bharat Gyan Vigyan Samithi (BGVS)
	Head of Design Team 2011, NIT Calicut
	Member of Literary and Debating Club & FOSSCell, NIT Calicut
Languages	Konkani (Mother tongue), English (Fluent), Malayalam (Intermediate), Hindi (Intermediate)