

Siddhartha Lal

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RESEARCH INTERESTS

Information and Communication Technology for Development (ICTD)

EDUCATION

International Institute of Information Technology (IIIT), Bangalore, Karnataka, INDIA
Master of Science (Research), Information Technology, Pursuing

Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT),
Gandhinagar, Gujarat, INDIA
Bachelor of Technology, Information and Communication Technology, 2009

St. Fidelis College, Lucknow, Uttar Pradesh, INDIA
Indian School Certificate (ISC), Grade 12, 2004

St. Fidelis College, Lucknow, Uttar Pradesh, INDIA
Indian Certificate of Secondary Examination (ICSE), Grade 10, 2002

EXPERIENCE

Myanmar Institute of Information Technology, Mandalay, Myanmar

Teaching Associate

Feb 2017 – Present

I am responsible for conducting lab and tutorial sessions for undergraduate level courses in programming, economics, mathematics, and English. I also serve as a teaching assistant for the same courses. The class size is 120 students. I also help out with administrative tasks at MIIT in various capacities.

International Institute of Information Technology, Bangalore, India

Research Assistant (Advisor: Dr. Amit Prakash, IIIT Bangalore)

Sep 2014 – Sep 2015

Conducted exploratory research on the use of cash transfers as social protection instruments and the role that information and communication technologies (ICTs) play in their implementation.

Gram Vaani Community Media Pvt. Ltd., Indian Institute of Technology, Delhi, India

Research Intern (Advisor: Dr. Aaditeshwar Seth, IIT Delhi)

Nov 2009 – Feb 2010

Conducted preliminary research on building an application that uses Gram Vaani's Multiplanar Inter Networking Protocol (MINP) and utilises radio as a communication technology to encourage participatory journalism and civic activism amongst community members. My research centered on inferences drawn from online social communities and other forms of participatory media (such as blogs, wikis, and participatory news sites).

Research Intern (Advisor: Dr. Aaditeshwar Seth, IIT Delhi)

Aug 2009 – Dec 2009

Worked on implementing the log-shipping component of the radio automation system that was being designed by Gram Vaani for rural community radio stations.

Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India

Research Intern (Advisor: Dr. Anish Mathuria, DA-IICT)

May 2008 – Jun 2008

Conducted a comparative and critical survey of existing Peer2Peer (P2P) Micropayment schemes. Modeled an existing scheme using formal analysis tools (CSP and FDR) and discovered a flaw in it. The scheme was then fixed, and proven to be secure using the same formal analysis.

University of California, Berkeley, Unites State of America

Research Intern (Advisor: Dr. Matthew Kam, CMU)

May 2007 – Apr 2008

MILLEE (Mobile and Immersive Learning for Literacy in Emerging Economies) is an interdisciplinary research project that involves designing educational and immersive cell phone games in order to promote access to English language literacy among underprivileged school-going children in the developing world. As part of my internship, I was responsible for designing and programming some of these games, and conducting field studies (contextual inquiries, ethnographic studies, summative evaluations) with children from two schools across India.

Society for Integrated Development of Himalayas, Kempty, India*Student Volunteer (Mentor: Mr. Raj Kanani, SIDH)*

May 2006 – Jun 2006

This internship was aimed at exploring ICT applications to improve the conditions of the rural sector, especially in the area of education. A period of 6 weeks was spent in villages and several projects were taken up, including the training of teachers in schools run by SIDH.

PUBLICATIONS

Kumar, N., Mathur, A., & Lal, S. (2013). Banking 101: Mobile-izing Financial Inclusion in an Emerging India. *Bell Labs Technical Journal*, 17(4).

Kam, M., Bhagwani, S., Kumar, A., Lal, S., Mathur, A., Tewari, A., & Canny, J. (2008). *Designing E-Learning Games for Rural Children in India: A Format for Balancing Learning with Fun*. Paper presented at the 7th ACM Conference on Designing Interactive Systems, Cape Town, South Africa.

Kam, M., Kumar, A., Lal, S., Mathur, A., Tewari, A., & Canny, J. (2007). *The Social Complexities of User-Centered Design in ICTD: Experiences from Four Schools in India's Villages and Slums*. Paper presented at the 2nd IEEE/ACM International Conference on Information and Communication Technologies and Development, Bangalore, India.

Tewari, A., Kumar, A., Lal, S., Mathur, A., Kam, M., & Canny, J. (2007). *Mobile Games for Learning English in Rural India: Designing Cellphone Games Informed by Traditional Games*. Paper presented at the 3rd Digital Games Research Association International Conference, Tokyo, Japan.

TEACHING ASSISTANT

ES 1010 – Programming I (Instructor: Dr. K. R. V. Subramanian)

MIIT Mandalay, Semester I '16-17

HSS 105 – Ethics (Instructor: Dr. Chetan Parikh)

IIIT Bangalore, Winter '16

BACHELOR'S THESIS

A connector between Scyther and SHRIMP (Advisor: Dr. Anish Mathuria, DA-IICT)

Jan 2009 – Jul 2009

Developed a tool for translating the attack specification generated by model checkers of security protocols (like Scyther, AVISPA). The translated specification could then be directly used as an input by a protocol-patching tool (like SHRIMP). This module was developed as part of an autonomic framework that could check security protocols for errors, prove them to be valid or invalid, and repair them on the fly.

ACADEMIC ENGAGEMENTS

No cash, no intermediaries. Different scenarios for a digital economy, Bangalore, India

Nov 2016

The workshop brought together diverse voices to discuss changes in the nature of financial transactions. The speakers and the participants explored ways to rethink cash-less and intermediary-free economies and examined how to best incorporate the values associated with cash and financial intermediaries into the world of digital financial transactions.

International Conference on Implimenting Social Programs, Bangalore, India

Sep 2012

Assisted with administrative and academic arrangements for the Innovation Expo during the International Conference on Implimenting Social Programs, co-hosted by the World Bank and IIIT, Bangalore, and entitled "*Better Processes, Better Technology, Better Results*"

Summer School on Computing for Socio-Economic Development, Bangalore, India

Jun 2010

The objective of the summer school, conducted by Microsoft Research (India), was to impress upon the attendees the interdisciplinary nature of ICTD research, to equip them with the tools needed to conduct such research, and to enable networking amongst peers working in the field.

SELECTED PROJECTS

Banking 101 – Towards Financial Empowerment of India's Poor

May 2008 – Dec 2008

Banking 101, an initiative at Stanford University, seeks to promote financial literacy by educating and empowering inhabitants of rural and semi-urban India who are unaware of the financial options available to them. The finished prototype – a mobile-based educational application – introduced the basics of banking to adults and encouraged them to pursue the options available.

JanMat – An Automated Public Response System

Jan 2008 – Apr 2008

JanMat aimed at computerising the Student Government elections at DA-IICT and replacing the existing manual system by a quicker, resource-conserving process. This project was completed as part of the Software Engineering course, under the guidance of Prof. Rakesh Shukla. The entire Software Development Life Cycle (SDLC) was followed during the course of the project. Team Size - 12

ICT and the Digital Divide

Feb 2007 – Apr 2007

This study was undertaken as part of the Science, Technology, & Society course and was aimed at understanding the implications of and the reasons behind the Digital Divide in India. Ongoing efforts to bridge the divide were also studied in detail. A presentation was given on completion of the project. Team Size - 12

COMPUTER SKILLS

Languages: C, C++, Java, ActionScript 2.1

Tools: L^AT_EX, GIMP, Adobe Flash 8, Adobe FlashLite 2.1, Adobe Dreamweaver MX, MS Word, MS PowerPoint

Operating Systems: Linux (Fedora, Ubuntu), Windows (9x, 2000, XP, Vista, 7)

SELECTED COURSES

Mobile Computing with IMS Architecture, Wireless Access Networks, Geographical Information Systems, Usability Engineering, Introduction to Cryptography, Compiler Design, Security Protocols, Computer Networks, Operating Systems, Data Structures and Algorithms, Object Oriented Programming

Dynamics of the Information Technology Industry, Economic and Social Impacts of IT, Religious Thought of Gandhi, Gandhi - Life and Thought, Science, Technology, & Society, Introduction to Business Finance, Principles of Economics, Approaches to Indian Society

EXTRA-CURRICULAR

- Secured 1st position in TechMarket (white paper presentation) at *Synapse* – the annual techno-cultural festival of DA-IICT (2008)
- Lead Coordinator of HeadRush (the quizzing event) at *Synapse* – the annual techno-cultural festival of DA-IICT (2008)
- City Second Runner-up in the Ahmedabad chapter of IMS Quotient – The National Inter Collegiate Quiz (2008)
- Coordinator of the activities of *HeadRush* – the campus quiz club at DA-IICT (2007-2008)
- Member of the Editorial Board and Section Editor of Random Noise for *Entelechy* – the campus magazine at DA-IICT (2005-2008)
- Webmaster for *HeadRush* – the campus quiz club at DA-IICT

HONOURS & AWARDS

- Received graduate fellowship for pursuing post-graduate studies at IIT Bangalore
- Gram Vaani won the jurors' distinction in the Digital Inclusion for Development category at the 2009 South Asia Manthan Awards
- Secured an All India Rank of 3855 (Top 1% of the country) in the All India Engineering Entrance Examination (AIEEE) '05
- School topper in Grade 10 (ICSE '02) and Grade 12 (ISC '04) Board Exams, with an aggregate of 93% and 94% respectively
- Awarded Daya Rani Pant Memorial Scholarship for securing the highest aggregate – 93% – in school in Grade 10 (ICSE '02) Board Exams

TEST SCORES

Graduate Record Examination (GRE) - General Test

Date: September 26, 2008

Score: 326 (Quantitative: 166, %ile: 94; Verbal: 160, %ile: 87; Analytical Writing: 4.0, %ile: 37)

PERSONAL DETAILS

Date of Birth

July 19, 1986

Permanent Address

B-4/104, Vishesh Khand, Gomti Nagar, Lucknow 226010, INDIA

Languages Known

English (Fluent), Hindi (Native)

Other Interests/Hobbies

Creative Writing, Reading, Quizzing