Sudhanshu **Singh**

RESEARCHER · SOFTWARE ENGINEER

201, Ittina Shivas, HSR Layout, Bangalore, India, 560103

 (+91) 8884045557 | ✉ master.by.matters@gmail.com | BaankeyBihari | baankeybihari | 🐦 @BaankeyBihari

"Be the change that you want to see in the world."

Education

IISc(Indian Institute of Science, Bangalore)   *Karnataka, India*

PHD IN COMPUTER SCIENCE AND AUTOMATON   *2013 - 2017 (Discontinued)*

- Courses: Network and Distributed System Security, Operating System, Compiler Design, Program Analysis and Verification, Automated Verification, Formal Methods in Software Engineering, Game Theory
- Research Area: Network and System Security, designing a robust mechanism for management of large number of keys.

NITT(National Institute of Technology, Trichy)   *Tamil Nadu, India*

MTECH IN COMPUTER SCIENCE AND ENGINEERING   *2010 - 2012*

- Courses: Advanced Data Structures and Algorithms, Advanced Computer Networks, Design of Parallel Algorithms, Cryptography, Wireless Sensor Network
- Research Area: Identity-based Signcryption

SMIT(Sikkim Manipal Institute of Technology)   *Sikkim, India*

BTECH IN COMPUTER SCIENCE ENGINEERING   *2006 - 2010*

- Courses: Data Structures and Algorithms, Computer Networks, Operating Systems, Compiler Design, Data Mining, Cryptography, Wireless Sensor Network

Experience

Western Digital Pvt. Ltd.   *Bangalore, India*

STAFF ENGINEER R&D   *January, 2018 - Present*

- Firmware Development
- Design and Implemenatation of Guardian Algorithm
- NAND Modeling and Experimentation
- C, C++, Python, JMP, Tensorflow

Qualcomm India Pvt. Ltd.   *Hyderabad, India*

ENGINEER   *July 2017 - January 2018*

- Modem Software Development
- Socks5 and L2TP mangement
- C, C++

Sandisk India Design Center   *Bangalore, India*

CONTRACTOR   *Jul. 2016 - July, 2017*

- Development of FTL
- Indian Lead of Simulator for FTL
- C, C++, Python

Oracle India Pvt Ltd   *Bangalore, India*

SOFTWARE DEVELOPER IN SYSTEMS GROUP   *Jun. 2012 - July 2013*

- System Administrator, responsible for upkeep and maintainance of systems local to the team
- Designed web interface for System Allocation and Reservation for local System
- Implementation of Pre-Flight Checker for Solaris 11
- C, Python

Skills

Programming	Python, C/C++, Tensorflow
Tools Used	LLVM, Omnetpp, Watson Libraries for Analysis (IBM-WALA), Git, Visual Studio
Languages	English, Hindi

Honors & Awards

2015	**Runner Up**,	Code Master at CITRIX Bangalore
2010	**All India Rank 238**,	GATE Computer Science
2009	**First Position**,	programming contest at TECHNICHE'09 by IIT Guwahati
2009	**All India Rank 5458**,	GATE Computer Science
2002	**All India Rank 738**,	IIT-JEE

Projects and Jobs

NAND Modeling
Western Digital

DATA ANALYSIS & EXPERIMENT DESIGN
July 2018 - Present

- Design Experiment for observing Activation Energy vs Age, of NAND used on SSD
- Incorporate Machine Learning concepts to do quicker modeling and validation of Data
- Design NAND Model for validation of Endurance Features for SSD (Guardian Technology)

FTL Development
Western Digital

SOFTWARE DEVELOPMENT
January 2018 - Present

- Working on Endurance Features for next generation SSD (Guardian Technology)
- Worked on Endurance Features for SSD (Guardian Technology) on Aspen SSD

Networking
Qualcomm

MODEM SOFTWARE DEVELOPMENT
July 2017 - January 2018

- Implementation of Socks5 Protocol in Modem.
- Enhancement of ALX Ethernet Driver for newer linux kernels.

FTL and Sim Development
Sandisk India Design Center

SOFTWARE DEVELOPMENT
July 2016 - July 2017

- Design, Development and Validation of FTL for Enterprise SSD
- Leading Indian team for Simulator Design for FTL
- Design and implementation of NAND behaviour and error injection

Privacy Preserving Authenticated VANET
IISc Bangalore

MEMBER
September 2014 - July 2017

- Understanding privacy issues in VANET.
- Design, implement and test protocols for VANET
- omnet++/crypto++
- Academic Research