Ashish Gupta

Sustainability and Technology Expert

Passionate individual with over 20+ years of strong Leadership experience with creative out-of-box innovative thinking. Core Competence in Entrepreneurship, Sustainability (Agriculture), Resilience, Strategic systems thinking, Project management and implementation. Aiming to co-create wide scale systems for sustainability benefits (social, ecological and economic) based on Information Technology.

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SKILLS

| Business Intelligence | Computer Networks Design | Device Driver Framework | Embedded Systems Design |

| Entrepreneurial Development | Growth Strategies | Market Placement and Marketing | Testing Infrastructure Design |

| Project Management | Root Cause Analysis and Mitigation | Systems Architecture | Enterprise Solutions |

| Strategic Leadership | Requirement Analysis | Training and Mentorship | Technology Integration |

WORK EXPERIENCE

Senior Systems Architect
GISIL Designs - Indepay Networks

07/2007 – 07/2008   *Gurgaon, India*

Systems Designs - POS Terminal Hardware, Embedded Systems for Fintech

Achievements/Tasks

- Managed Systems Engineering Technical Leadership as Solutions Architect as single position for strategic alignment of devices for the Company Terminal - USB stack devices, Biometric Systems, Payment Card Device, Pin Entry Device (PED), PCI DSS Complaince
- Developed Solutions for Secure PoS terminals, PCI DSS Compliance for PED EMV Level 2 Kernel, Cryptography applications, Processor Virtualization for ARM7 and USIP Chipsets
- Successful Integration Solutions for Biometrics Stack, Bar code, Fingerprint enrollment, de-duplication check - ISO 19794 compliance - Developed High Level Enterprise Architecture systems for implementing Biometric inclusion of large population base
- Successfully executed root cause analysis for Enterprise system problems for financial inclusion and card payment systems based on Java EE

Senior Lead Software Engineering
Conexant Systems

06/2004 – 07/2007   *Noida, India*

Now Acquired by Synaptic Inc

Achievements/Tasks

- Managed Technical Engineering team of 3-6 engineers for various projects by assigning technical tasks, code reviews, design documentation - High Level and Detailed, DevOps functions - Code merging, conflict resolution, build and deploy cycles within release timelines.
- Implemented New Design for Packet Classifier Using Boolean trees, AND-OR Graphs for team-wide IP DSLAM memory and cycles Optimization. Coding in C and Unit, Integration and Systems Testing using Shell scripts and custom code.
- Redesigned Packet Classification framework to reclaim over 2 MB of Embedded RAM and Flash space optimizing memory space. Coded DHCP (Static and Dynamic) Protocol Stack for IP discovery based on RFC Standard for IP DSLAM.
- Slashed timelag for control path filter configuration in Dataplane by over 100%. Successful Root Cause Analysis on issues related to timing of Large Scale Packet Classifier operations.
- Executed various roles for Data and Control Path development for IPSEC VPN, QOS, Firewall and Packet Classification for ADSL Modem, based on Embedded Linux. Root Cause Analysis for ADSL Kernel crashes patches and build stability.
- Created Architecture and High level design for a network processor to perform quick look-ups of inline packets based on propreitory hashing function and lookup hardware. Applied for Innovation Disclosure to Internal Company IPR department.

WORK EXPERIENCE

Software Engineer
Various Organisations (NIKSUN India, Pixtel Communications, iPolicy Networks)

09/2000 – 06/2004   *Multiple Locations, India*

Pixtel Acquired by Mediatek, iPolicy Acquired by Tech Mahindra

Achievements/Tasks

- Successfully Designed, Development, Debugging and Deployment of Intrusion Detection Systems (IDS), Firewall, Packet Filtering and Injection Frameworks in various teams of 2-3 engineers in multiple projects. Coded Projects in Java EE (Client-Server using Servlets) to Implement Smart packet detectors for IDS (NIKSUN India).
- First Coding Implementation of IPX packet filtering by modification of the Berkley Packet Filter (BPF) based on FreeBSD Kernel. . Part of Development team of 4 Engineers to reconstruct IP packet flows based on tracking RADIUS IP assignment for TCP reconstruction and offline packet search on a Non-Intrusive Pattern Matching Device (NIKSUN India).
- Developed interfaces for MMI, Call Management state machine and Protocol Stack Integration for ARM based GSM/GPRS Chipset - with collaboration with Mediatek (Taiwan) - Code Debugging using Trace32 ICD on board for release stability (Pixtel).
- Developed tools, software and testing framework for High speed packet filtering and matching on various Network security devices on Control Plane for High Speed Networks (NAT/Firewall) (iPolicy Networks).

Entrepreneur Roles
Organic Way of Life, Jaivik Haat Private Limited ⤢

09/2008 – Present   *Delhi, India*

Marketing and Supply Platform for Connecting Farmers to Consumers

Achievements/Tasks

- 100% Single Handed Successful Business Establishment from ground-up for over a decade. Successful Compliance and Crisis Management during COVID-19 lockdown for business continuity. 30% YoY increase in sales, based on strartegic partnerships, inventory, sourcing and marketing
- Achieved sales turnover of 40lacs+ from 3rd Year Onward with Negligible debt exposure. Break-even achieved 3rd Year Onwards
- Ensured Fair pricing to farmers and transparency to consumers - Assisted additional farming initiatives in Entrepreneurship development - Various locations in India
- Successfully transitioned business through equity transfer to Non-Profit for continuity

Social Sustainability Brief - Consulting, Founding and Probono
Various Organisations (FAO, WHH, APO, IFOAM-OI, OFAI, PGSOC, GDT, DOFM) - Sustainable Agriculture

10/2010 – 07/2019   *India*

Food and Agriculture Organisation of United Nations (FAO), Welthungerhilfe (WHH), Asia Productivity Organisation (APO) etc

Achievements/Tasks

- Advised FAO on Sustainable Food Systems Capacity Development, Sustainable Development Goals (SDG 2.4.1) Frameworks, Participatory Guarantee Systems (PGS), Big-Data Analytics for Smallholder farming clusters in India.
- Assisted APO with creation of Training Programs on Social Entrepreneurship for Rural Development for Government Employees and NGOS for 18 countries in Asia.
- Created Scalable Food Systems Platform for WHH for connecting 5 NGOS and over stakeholders 3000 farmers to localized markets.
- Served as First Vice President of IFOAM-Asia, a pan Asian body for promotion of Sustainable Agriculture in over 6 countries across Asia.
- Successfully Co-Founded Trusts (GDT and DOFM) as per Legal Compliances - including designing suitable objectives, statues and functional programs on Market Platforms, Capacity Building for Small producers and family farmers, Mountain Sustainability.
- Served as Board member and contributed to organisation development, board meetings and advocacy for Sustainable Agriculture in Indias largest network - Organic Farming Association of India (OFAI) and Secretary PGS Organic Council.

EDUCATION

Master of Science - Software Systems
Birla Institute of Technology and Sciences

06/2002 – 02/2005   *9.10/10.0*

Bachelor of Engineering - Computer Science And Engineering
Walchand Institute Of Technology (WIT)

06/1996 – 04/2004   *First Class with Distinction*

IT TECHNICAL SKILLS

Computer Hardware	Configuring and managing interfaces for ATM,Fibre, DSL. Ethernet 802.3, Cisco Routers, Switches, Packet/Crypto Generators, JTAG, Lauterbach	**Computer Networks**	TCP/IP – Stack Internals, Packet Shaping, Metering, Policing, Packet Drop Algorithms, Bridging protocols - L2 , VLAN, LLC, SNAP, L2 and L3 Multicast
Enterprise Systems	Webservers, Cloud Computing (SaaS, PaaS, XaaS), Agile Methods (Scrum), DevOps, SDLC, Test Automation, Versioning (Git,SVN), Machine Learning	**Languages/Compilers/Interpreters/Tools**	C/C++, GNU Tools, Java EE, Perl, GNU linker, XML, TCL, Compilers (ARM, MIPS), Assemblers (x86, ARM), Makefiles, Lex/Yacc, Vim, Emacs, Tally
Security Frameworks	IP VPN (PKIS, 3DES, IKE, MD5, SHA1), SSH, RSH, PKI, MD5, Firewalls, RADIUS, PCI PED, EMV Level 2, PKCS #1, Digital Certificates.	**OS Kernels/Distros**	*BSD,Linux Kernel, Kernel Virtualization (OLK4/Trango), Distro (Ubuntu/Redhat/GNOME,KDE)
Embedded Systems	Nucleus Plus, uCLinux, Integrity, Proprietary OS	**Standards**	RFC, ITU–T, POSIX, GSM ETSI Standards, 3GPP GSM Standards, IEEE, ISO 19794 Biometrics, EMV Level 2/2, PCI DSS

ORGANIZATIONS

Gram Disha Trust (09/2019 – Present) ⬀
Founding Trustee

Delhi Organic Farmers Market Trust (01/2019 – Present) ⬀
Founding Trustee

CERTIFICATES

Free Prior Informed Consent (FPIC) (12/2018 – Present)
Food and Agriculture Organisations (FAO) of the United Nations

Resilience in Food Security Analysis (11/2018 – Present)
Food and Agriculture Organisations (FAO) of the United Nations

INTERESTS

Backpacking and Travelling
Composting
Horticulture - Fruit Trees and Vegetables
Mountain Farming Systems
Mountaineering
Music - Guitar/Flute Play

SUPPORTED CAUSES

Ahinsa and Gandhism
Animal Welfare
Appropriate Technology for Agriculture
Crisis Relief
Food Safety and Nutrition
Sustainable Agriculture and Forestry

ACHIEVEMENTS

Post Graduate Thesis (06/2003 – 07/2004)
InterWeave - A Novel Network Processor Architecture for Active Networks. The thesis details requirements and challenges posed by Active networks. It proposes architecture of a network processor to support the requirements of such networks.

Research Paper Presentation - Quantum Computers (1998)
Presented paper titled "Quantum Computers" at presentation by IEEE student's chapter held at Manipal Institute of Technology. A Primer to Quantum Computers, explains aspects of Communication and Cryptography and challenges in implementing the same.

Research Paper Presentation - First Prize (1997)
Presented paper titled "Computer Simulation and Modeling" at National Level Presentation held at REC Kurukshetra and BITS Pilani. The paper elucidates various mathematical and empirical approaches to Computer Simulations and Modeling.