

# NEHA SHARMA

## Curriculum Vitae

nsa84@sfu.ca °

### CAREER FOCUS

I am pursuing my Ph.D. in Computing Science under Prof. Mohamed Hefeeda at the Network Systems Lab, Simon Fraser University, Burnaby. My current research interests lie in multimedia networking, machine learning, deep learning, computer vision

### EDUCATION

**Simon Fraser University, Burnaby (NSL)**

Sep 2018 – present

*Ph.D. in Computing Science*

**Motilal Nehru National Institute of Technology, Allahabad**

July 2011 – May 2015

*B.Tech.in Computer Science*

### RESEARCH EXPERIENCE

**Simon Fraser University Burnaby (NSL)**

Sep 2018 – present

*Research Assistant in the Network Systems Lab*

- Hyperspectral imaging using deep learning models for mobile applications

**University at Albany, SUNY**

Jun 2017 – Nov 2017

*Research Intern(remote) w/ Prof. Pradeep Atrey*

**SecureCMerge: Secure PDF Merging Over Untrusted Servers**

- It is a method for secure PDF merging over untrusted third-party servers using the merge-homomorphism property of Shamir's secret sharing. It is developed as a Windows based application.
- Application is implemented in C#, PDF content extraction is done using third party library PDF4NET and PDF merging is done using third-party servers like pdfmerge.com (HTTP POST request).
- Kindly find the demo link of the application [<https://youtu.be/UMOMhQiT928>]

**Indian Institute of Technology, Roorkee**

Dec 2013

*Research Intern w/ Prof. R. Balasubramanian*

**Image Compression using Huffman coding and JPEG**

- Images are compressed using two techniques Huffman coding and JPEG, detailed analysis is performed using compression ratios of many images.
- Both the techniques are implemented in MATLAB

**Motilal Nehru National Institute of Technology, Allahabad**

Jul 2014 – May 2015

*Undergraduate Research Project w/ Prof. Krishna K. Mishra*

**Multi-Objective Optimization using Non Dominated Sorting PSO**

- The project involves implementation of modified PSO: Non-dominated Sorting Particle Swarm Optimization (NSPSO) for optimization of multiobjective functions as in CEC2009 benchmark functions. NSPSO extends the basic form of PSO by using effective non-dominated comparisons of a particle's best with its offspring. This proves to be effective in providing an appropriate selection pressure to propel the swarm population towards the Pareto-optimal front and give the optimal solution.

## WORK EXPERIENCE

**Infoedge India Limited** (99acres.com)

Jun 2016 – Aug 2018

*Senior Software Engineer*

- Designed and implemented consolidated user management system to perform authentication and authorization of all users, with privilege management based on RBAC and DAC model.
- Devised a generic event based auditing framework for screening workflows of property and profile, such that, integration of framework can be done using annotations only.
- Analyzing software requirements to provide optimized design, evaluation, conceptualization, technology mapping and final execution.
- Performing Code Reviews, Quality Check, Deployment, Live Monitoring, Performance Testing and Scrum Master role in agile workflow.
- Mentoring the new joiners on the domain and process knowledge.

**Infoedge India Limited** (99acres.com)

Jun 2015 – May 2016

*Software Engineer*

- Migrated Legacy core module to the Web Services architecture using JAVA/ SPRING framework.
- SEO(Search Engine Optimization) projects, including successful HTTPS migration of site, meta tags optimization, page linking which led to increase in organic site traffic to around 10%.
- Designed architecture and implemented end to end solutions to meet business requirements.
- Gained exposure to all phases of the Software Development Life Cycle including Projects Planning & Implementation, Requirement Gathering and Analysis, Design & Development, Deployment, Testing and Maintenance.
- Developed and maintained core modules required by the application

## PUBLICATIONS

- [1] **Sharma, N., Singh, P., & Atrey, P.** (2018). SecureCMerge: Secure PDF Merging Over Untrusted Servers. In IEEE 1st International Conference on Multimedia Information Processing and Retrieval (MIPR), 2018. [Acceptance Rate: **19.5%**]

## AWARDS AND SCHOLARSHIPS

**Simon Fraser Graduate Fellowship**

Sep 2018

**Simon Fraser Special Graduate Entrance  
Scholarship**

Sep 2018

## EXTRACURRICULAR ACTIVITIES

- Active participation in team building activities and hackathons in 99acres.
- Stage Play Winner in Culrav 2014, a national level cultural festival of MNNIT.
- Acted as Event coordinator of Cyberquest in Avishkar 2014, a national level technical festival of MNNIT.
- Was an active member of Drama Committee and Fashion Show Committee at MNNIT
- Won Fading Blue in Avishkar 2012 , a national level technical festival of MNNIT.