SHIVAM SINGH

Researcher & Developer ~ Software Engineering

Human Computer Interaction | Artificial Intelligence | Internet of Things

EDUCATION

- **Bachelor of Technology** **CPI: 8.6/10**
  Electronics & Communication Engineering
  Sam Higginbottom Institute of Agriculture Technology and Sciences, Allahabad, India
  June 2014

- **Higher Secondary Class (XIIth)**
  SOS Hermann Gmeiner School, Varanasi, Uttar Pradesh (India) **Percentage: 82%**
  2010

- **Senior Secondary Class (Xth)**
- Ma Durga Ji Vidyalaya, Jaunpur, Uttar Pradesh(India) **Percentage: 85%**
  2008

WORK – EXPERIENCE

- Researcher & Developer May 2015 – Present
  Accenture Technology Labs, Accenture, Gurugram, India
  Responsibilities: Research (Virtual Agents, Artificial Intelligence, Accessibility Solutions), Development (Progressive Web Applications, Cross platform development)
  Research Undertaken: Accessibility Solutions for Blind (Complete Solution development), Virtual Agents for socially challenged people, Wearable Devices Integration

- Freelance Software Developer June 2014 – April 2015
  Projects Undertaken: Web and Mobile Application design and development, Interaction Design
  Responsibilities: End to end development and delivery.

PUBLICATIONS & SUBMISSIONS

- Anurag Bhandari, Nishith Pathak and Shivam Singh, "**Designing a Multilingual Virtual Agent Capable of Interacting with Uneducated People for Automated Data Collection**", Submitted at GHCI 2017, *Grace Hopper Celebration India-Conference November 2017*, Bangalore International Exhibition Centre, November 2017

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R E S E A R C H – E X P E R I E N C E

Designing Accessibility Solution for Visually Impaired Audience
Research Project: (January 2017 - June 2017).
Supervisor: Anurag Bhandari

- A prototype with cross platform code base was developed and tested.
- The application is designed for keeping wearables and its significance in mind.
- The design of the prototype was finalised with keeping target users, i,e visually impaired, in design thinking process.
- The language used to develop the application was Typescript and a Machine Learning model was developed to process and label images. Efforts were to be made on, to integrate it wirelessly with eye-wares and glasses.
- The user acceptance testing was done with the help of NGOs for visually impaired people.

Integration of Wearables with Accessibility solution for Blind
Research Project: (February 2017 - June 2017).
Supervisor: Anurag Bhandari

- Couple of prototypes were designed for integration with mobile based accessibility application.
- Several eyewears were finalised to be integrated with the application wirelessly.
- The usage window was found between 15-20 minutes with wireless connection which was using 802.11 a band for connectivity.

Designing a Multilingual Virtual Agent Capable of Interacting with Uneducated People for Automated Data Collection
Research Project: (November 2016-May 2017).
Supervisors: Anurag Bhandari & Nishith Pathak

- A multilingual virtual agent was conceptualized, designed and prototyped.
- Face models were designed and simulated for specific talks and expressions.
- A cross platform code implementation was done and tested with deploying in various platforms and devices.
- The problem of language support was addressed by providing support for various regional and standard language.
- A much personalized and accurate result experience was recorded with no human element involved.
- A lightweight thin client model approach was adopted and optimized which provided high performance even in low connectivity.

Implementation of Intelligent Automation based Solutions for Complex Social Problems
Ref Paper: Sanjay, Janardan, Senthil, Neville, Indrani. Designing Intelligent Automation based Solutions for Complex Social Problems, *ICML 2016*
Design & Development Project: (November 2016- February 2017).
Supervisor: Anurag Bhandari & Nishith Pathak

- Paper implementation suggested that the application must take into account the connectivity loss and network reach to be successfully implemented.
- An offline trained Machine Learning model with the formula concluded in original research was to be integrated with the developed application.
- The offline model provided the basic Vulnerability Index calculation of prone users and synced with online model when in reachable connectivity for completely accurate vulnerability.

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RELEVANT–COURSE

- Digital Design
- Operating Systems
- Object Oriented Software Development and Design
- Web Design and Development
- RESTful Web Services
- Design Thinking
- Artificial Intelligence & Machine Learning

ACCOLADES/PROFESSIONAL–HONOURS

- Awarded the prestigious Accenture Celebrates Excellence for Innovation in April 2017 for contributions in field of Research and Development.
- Awarded Accenture Labs Sunshine Award in March 2017, for exemplified research work.

WORKSHOPS/EVENTS

- Submitted- *Grace Hopper Celebration India (GHCI 2017)* conference at Bangalore International Exhibition Centre, November 2017
- Awarded 3rd position(Team Award) for our submission of a friendly Virtual Assistant for helping in answering queries related to STEM, STEM challenge - Inspiring girls in field of STEM , Accenture Technology Labs, Bangalore February 2017
- Coordinated- Quizzes & Competition at Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad, India..
- Member- Technical Society of Electronics, SHUATS, Allahabad, 2013-2014.

TECHNICAL–SKILLS

- Programming Languages: JavaScript(Browser & Node), C#, Typescript, HTML5, C++
- Server Side Frameworks: ASP .NET MVC, WebApi, NodeJS, RESTful Web Services
- Client Side Frameworks: AngularJS 4, ReactJS, Progressive Web Apps, jQuery, Bootstrap and CSS
- Mobile Frameworks: Ionic 3, Cordova
- Operating Systems: GNU Linux, macOS(Unix) and Windows
- Cloud Technologies: Microsoft Azure.
- IDE: Visual Studio Code, Visual Studio 2017, Xamarin Studio
- Tools: Git, TFS, Reallusion Crazytalk, Node Package Manager,

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R E F E R E N C E S

- **Nishith Pathak**
  Vice President and R&D Lead,
  Accenture Technology Labs, Accenture, New Delhi, India
  Email(O): nishith.pathak@accenture.com
  Email (P): nispathak@gmail.com
  Contact: (+91)-9528350109

- **Professor M. Radhakrishnan**
  Professor,
  Indian Institute of Information Technology, Allahabad, India

- **Anurag Bhandari**
  Technology R&D Specialist,
  Accenture Technology Labs, Accenture, Gurugram, India
  Founder and Lead , Granular Linux.
  Infrastructure Lead, Open Mandrivaa
  Email (O): anurag.x.bhandari@accenture.com
  Email (P): anurag.bhd@gmail.com
  Contact: +91 9650154485

C O N T A C T – I N F O R M A T I O N

- Email-Home: shivamsngh@hotmail.com
- Email-Office: shivam.d.singh@accenture.com
- Skype: shivamsngh@hotmail.com
- Website: https://shivamsngh.github.io
- GitHub : https://github.com/shivamsngh
- LinkedIn: https://www.linkedin.com/in/shivamsngh

Cell: (+91) 99 66679015/ (+91)9696644017
Location: Gurugram, Haryana, India