



# SHUBHAM

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## EDUCATION

<b>The National Institute of Engineering, Mysore (Karnataka)</b> Bachelor of Engineering in Computer Science	August 2017 -Present CGPA : 9.1
<b>Holy Cross School, Bokaro (Jharkhand)</b> Senior Secondary (XII), Science	July 2014 - June 2016 Percentage: 90.00
<b>D.A.V Public School, Bikramganj (Bihar)</b> Secondary ( X )	May 2008 - June 2014 CGPA : 10.00

## PUBLICATIONS

- “Age unconstrained photo ID validation using Contextual Generative Adversarial Network”,  
*International Journal of Computer Science and Mobile Computing*, Sep 2020.

## INTERNSHIP / TRAININGS

<b>Truminds Software Systems</b> <i>Software Engineer Intern</i>	Oct 2020 - Present
<ul style="list-style-type: none"><li>• Working on the development of an automated online exam proctoring system.</li></ul>	
<b>Prompt Group</b> <i>Computer Vision Intern</i>	Aug 2020 - Sep 2020
<ul style="list-style-type: none"><li>• Worked on R&amp;D of cattle Identification system using muzzle point pattern using Computer Vision.</li></ul>	
<b>Cppsecrets.com</b> <i>C++ Developer Intern</i>	Nov 2019 - May 2020
<ul style="list-style-type: none"><li>• Worked on development of security devices like Face counting system, Biometric verification system using OpenCV &amp; DLIB in C++.</li><li>• Worked on development of Network Load Balancer.</li><li>• Contributed professional-level articles in C++ 11/14.</li></ul>	
<b>Artificial Intelligence Trainee</b> <i>Indian Institute of Technology, Kanpur (Kanpur)</i>	Jun 2019 - Jul 2019
<ul style="list-style-type: none"><li>• Worked on machine learning algorithms (like Linear Regression, Decision Tree and K-nearest neighbours) &amp; CNN.</li></ul>	

## CERTIFICATIONS

<b>Deep Learning Specialization</b> <i>Deeplearning.ai</i>	<b>IBM Data Science Professional Certificate</b> <i>IBM</i>
<b>Google IT Support Professional Certificate</b> <i>Google</i>	<b>Architecting with Google Compute Engine</b> <i>Google Cloud</i>

## PROJECTS

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### Plant Seedling Classification

- Aims to help farmers to classify weed plants from crop seedlings during early stages of agriculture.
- It involves training a neural network with more than 10 thousand image samples using CNN.

### Secure transit, Intruder detection

- A completely AI automated system ensuring authorised entry of vehicles in restricted zones, access to RTO database for vehicle validation, and odd/even traffic management.
- Based on computer vision, detects license plate, uses OCR for text detection and uses SMTP to automatically send mails to authority and intruder.

### Drone - Acharya

- Ensuring safety with drone surveillance in Thermal power plants by detecting cracks in structures like industrial boilers based on ONNX format implemented using PyTorch.
- Crack location, severity and prone to spill is sent to the authorities automatically after inspection.
- Simultaneous monitoring of multiple working sites without manual intervention, resulting in decreased downtime period and opportunity cost.

### Identity validation by Facial Ageing (contextual GAN) and Gait analysis

- A band of images are generated of different age groups and the current face is matched against each age group and it tries to find a match against any one age group.
- Movement of the human individual is recognized by the gait analysis.
- Advantages : No storage required, No internet, No sensors, No installation cost & zero fragility.

### Text to 3D virtual layout translation with intermediate panoramic translation

- Contains 4 primary architectures - AttnGAN, Image stitching, Manhattan lines generator and LayoutNet. AttnGan generates square images from text description.
- Content preserving image stitching generates a panoramic image from multiple square images.
- Manhattan wireframe generates lines for architectural understanding of edges.
- LayoutNET generates a 3D virtual layout using Manhattan lines and panoramic images.

## POSITION OF RESPONSIBILITY

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- **Founding President of ISSA** (Information Systems Security Association) - Student Chapter of NIE. Planned and organized 10 events, 6 of which were technical workshops competitions and the other 4 as a part of an information campaign for juniors.
- **Organizer Lead**- Assisted first-year students by mentoring them on an Augmented Academic Skills training programme organized by the Department of Mathematics in association with the Department of Mechanical Engineering for 2 weeks.
- **Campus Ambassador** of Electronics & Information Communication Technology, IIT Kanpur.
- Worked as **Convenor** for techNIEKs 2018.

## AWARDS & ACHIEVEMENTS

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- **KPMG Ideation Challenge 2020** national semi finals winner & national-level finalist for presenting the most innovative idea for **Biometric verification using GAN**.
- Runners Up in MapMyIndia bounty during Hackbout 2020 at NMIT Bangalore.
- Best technical paper presentation award on National Science Day at NIE.
- Fourth place at national-level hackathon - *Hackelite* conducted by **Hewlett Packard Enterprise (HPE)** & JSSSTU.
- Secured 4th position and won 2k cash prize for most innovative Idea in NIE Innovation challenge.