

EDUCATION

IIT KHARAGPUR, INDIA

DUAL DEGREE IN ELECTRICAL
ENGINEERING

(M.TECH. IN SIGNAL PROCESSING)

Expected June 2018

Cum. GPA: 8.1

FIITJEE J.C., HYD, INDIA

JUNIOR COLLEGE

Grad. May 2013

Aggregate: 95.7%

SOCIAL

Web: arunpatro.com

Github: [arunpatro](https://github.com/arunpatro)

Facebook: [arunpatro](https://www.facebook.com/arunpatro)

COURSEWORK

Statistical Signal Processing

Machine Learning

Digital Signal Processing

Digital Image Processing

Embedded Systems

Computer Architecture + OS

Data Communication

Control Systems

Product Development

Copyright Law

Constitution Law

SKILLS

Languages:

C • JS • Python • Verilog

Tools and Packages:

Git • Torch • TensorFlow • OpenCV

Hardware:

Arduino • Raspberry Pi • Intel Edison

AWARDS

Academic:

All India Rank of 1214 in JEE Advanced

Duke TIP, (Duke University + IIM-A)

Theatre:

Bronze in English Dramatics, IIT-KGP

Silver in English Dramatics, IIM-B

HOBBIES

Theatre • Debating • Rubik's Puzzles

Table Tennis • Swimming

INDUSTRY EXPERIENCE

MYNTRA DESIGNS | DEEP LEARNING • IMAGE PROCESSING

May 2017 - July 2017 | Bangalore, India

- Modeled distribution of solid shirt designs using Generative Adversarial Networks
- Proposed different gradient measure loss functions for estimating noise vectors
- Generated new designs using linear interpolation and vector arithmetic on noise vectors
- Improved symmetry of generated shirts by imposing symmetry conditions on the GANs

GENERAL ELECTRIC HEALTHCARE | AUTOMATION • IOT

May 2016 - July 2016 | Bangalore, India

- Automated assembly process of X-Ray Tube Collets using servo motors & CCD camera
- Increased precision (by 2x) of focal spot detection during assembly using canny filters
- Developed a PoC for Remote Beacons that monitored the environment of the shop floor

CYIENT | IOT • EMBEDDED SYSTEMS

May 2015 - July 2015 | Bangalore, India

- Developed add-on modules to convert passive industrial machines to an IoT device
- Supported multiple sensor and actuator integrations using USB, WiFi and BLE

PUBLICATION

BCS SGAI INTERNATIONAL CONFERENCE ON AI-2017

Enhancing Symmetry in GAN Generated Fashion Images

Vishnu Makkapati, Arun Patro

https://doi.org/10.1007/978-3-319-71078-5_34

PROJECTS

AUTOMATED FASHION DESIGN USING GAN | MASTER'S PROJECT

Aug 2017 | Mentor: Prof. Jayanta Mukhopadhyay & Vishnu Makkapati (Myntra)

Modelling DCGANs to improve quality of images for periodic data (stripes, checks, etc).

Experiments with different GAN architectures for texture synthesis and analysis. Inversion of GANs to understand data distribution in latent space, and create mix-and-match designs.

BLUR KERNEL ESTIMATION | BACHELOR'S PROJECT

Aug 2016 - Apr 2017 | Mentor: Prof. Rajiv Ranjan Sahay

Estimation of gaussian blur kernels to quantify the degree of defocus blur of non-uniformly blurred images using Deep Learning. Estimation was done patchwise. Trained a CNN to learn the blur parameter (sigma) of a gaussian blur from patches obtained from invariantly blurred textured images (Brodatz Dataset).

DETECTING CLICKBAIT | MACHINE LEARNING TERM PROJECT

Oct 2016 | Mentor: Prof. Pabitra Mitra

Highlighted differences between clickbait and non-clickbait headlines (e.g., POS tags, number of tokens, average char count). Used these differences as features to train an SVM classifier to identify clickbait headlines.

AUTONOMOUS GROUND VEHICLE RESEARCH GROUP

2014 - 2015 | Mentor: Prof. Devasish Chakravarty

Part of the Computer Vision team which included detecting obstacles and lanes for path planning of cars in grassy and city environments. The team competes in Intelligent Ground Vehicle Competition and Mahindra Rise Prize Challenge.

SOCIETIES

Governor of Encore theatre troupe (7 theater productions, 4 street plays)

Team Leader of Outgoing Exchange, AIESEC IIT Kharapur

Cadet at National Cadet Corps (Indian Air Force)