

AGNI BISWAS

Mechatronics Engineer

Product Design & Development



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PORTFOLIO: agnibiswas.weebly.com

SKILLSETS

➤ LANGUAGES

C++, Python, Shell Scripting

➤ Simulation

Software

Matlab, Catia, FluidSim (Festo), Solid works'16,

➤ Electronics

NI Multisim, Eagle, TI Tina, TI workbench, Siemens Total Integrated Automation PLC Simulator

➤ Product Design and Prototyping

Catia, Solid Edge, Keyshots, Cura, Pronterface, Slicer, Autodesk fusion.

➤ Platforms

Arduino, R.O.S, Embedded Linux, T.I. energia, Beaglebone, Raspberry Pi

EDUCATION

- B.Tech Mechatronics Engineering (CGPA 6.89) at Manipal Institute of Technology, Manipal.
- Completed A1 in German from the Department of European Studies, Manipal University.
- DPS Ranchi: CBSE 12th board 73%;
- CBSE 10TH CGPA 9.4/10

TECHNICAL BACKGROUND

Primary Positions held:

Hardware Developer

Hawa Dawa GmbH | 25th April'18- Present

Solutions for monitoring and calibrating real-time air quality data.

- Support in hardware development to help design, debug and re-iterate elements of the device
- Schematic and PCB Design with Autodesk Eagle
- Firmware design and scripting for 8/32 Bit Controllers
- Mechanical design for modifications and Accessories with Autodesk Fusion
- Deployment and testing of hardware
- Supporting Supply Chain management, and product life-cycle management

Embedded Systems Engineer

IFuture Robotics PVT LTD | 5th April'17- 9th Feb'18

Developing logistics automation solutions.

- Liaison and group lead to the control systems research group
- Led POC generation and deployment for **Ark Sorter**: company's sorter portfolio.
- Led POC generation for the company's portfolio **AGV base** in association with SAP Labs
- **IFuture Robotics** was awarded memberships at SAP startup studio , SAP COIN labs and Kickstart Zurich to encourage their expedition into autonomous mobile robotics

Hardware Development Manager

TERRASENSE LABS PVT LTD | 10th Jan'16 – 1st May'17

Hardware Developer (Part Time)

TERRASENSE LABS PVT LTD | 1st Aug'15 – 1st Jan'16

Solutions for monitoring and calibrating real time air quality data.

- Developed sensing algorithms for multi sensor devices
- Conducted research on sensor accuracy and device profiling.
- Designed and developed an outdoor adapter for indoor air quality monitors total runtime adding to 7 months.
- Designed and developed real time Fence line monitor "**Jellyfish**".
- Received widespread media coverage for the Bangalore traffic emissions study

"Breathe Bengaluru"

COLLEGIATE MEMBERSHIP

- Member of the Working Committee of The Institution of Engineers India, collegiate chapter.
- Member, International Society of Automation, Collegiate chapter, Manipal.
- Senior Team member - Oct'12 to July '16. Robomanipal, the Official Robotics Team, MIT Manipal
- Taught and organized the Basic Robotics Workshop as a featured workshops for Tech-Tatva, the official collegiate Tech-festival for MIT Manipal. An event attended by 400+ people from all disciplines across the university.

AWARDS & RECOGNITION

FARMING TECHNOLOGY FOR INDIA

- Presented research at IEEE's international Conference TIAR'15

THE FORGE

- RUNNERS UP, Provenance, MUTBI Manipal
- 3RD POSITION : Google Startup Weekend Social innovation edition'15

Auxiliary Positions held:

Product Designer

YOSTRA LABS | 1st Feb'16- 25th March'16

Diabetic Peripheral neuropathy prognosis and diagnosis devices.

- Designed **Sparsh** and **Drip-check**, flagship devices in their Diabetic product portfolio.
- The design acclaimed critical recognition at the "Axilor Heliate" awards where Yostra was awarded for its innovation in diabetic healthcare for the device "Sparsh".

CAD designer

DENTAL INNOVATIONS PVT.LTD | 1st April' 15- 1st May 2015

Oral healthcare solutions.

- Led Industrial design and rapid prototyping.
- Designed and modified a dentist's mouth mirror
- Designed and modified a suction tube

R&D Team Member

FROZEN FIRE LABS, EXPISCOR TECHNOLOGIES | 12th Feb'13 to 29th July'13

Home Automation Devices.

- Associated since inception of its technical wing Frozen Fire Labs, in 2013 as an engineering intern (initially) and later assimilated into the R&D team for sensor design.
- Created a security system based on laser tripwires Made an automatic LPG leak detection system
- Deployed POCs of the complete home automation solution package

Summer Intern

SIRENA TECHNOLOGIES | 1st May'14 to 28th July '14

Interactive Humanoids for Education and Research

- Helped design a humanoid for the start-up at its nascent stages.
- Worked for gait planning on a humanoid research platform
- Achieved walking by teaching the humanoid basic movements

INDEPENDENT PROJECTS

FARMING TECHNOLOGY FOR INDIA

Versatile low cost data acquisition systems to the rural farmer, reduce labor time on crops while aiming at efficient water usage, and optimizing the inputs to render farming an ecofriendly and profitable activity.

Published at Technical Innovations in Agricultural Research'15, IEEE | [LINK](#)

THE FORGE

A cost effective self-defense device to help violence victims evade unwanted circumstances as an alternative to traditional weapons.

[View the project.](#)

SMART COLLAR

➤ Presented research at
ISA IACT 2015

SMART COLLAR

Monitoring systems for non-migratory animals that broadcast a location only in the case of an ECG anomaly. A triangulation based system is applied to allow active monitoring via video feed of the animal of interest from multiple fixed locations. To allow the creation of the next generation of tracking devices for Animals which will help resolve issues of poaching and animal monitoring.

Published at International Journal of Advanced Research'16 | [LINK](#)

TISSUE POTENTIAL MAPPING

Commodity ECG sensors that can plug into your phone/laptop.

Completed as a seminar Presentation | [LINK](#)

INTELLIGENT RETAINER

Helping patients monitor and understand the time requirements of their orthodontic therapy, thus allowing them to plan their expenses, while enabling the doctors to understand the effectiveness of their therapy with respect to the usage of the retainers.

Completed development as a part of a PhD thesis by a student group under Manipal College of Dental Sciences for monitoring the usage of the retainers | [LINK](#)

ODONTO-SENSE

Patent id 20184102494 submitted in association with MCODS Manipal for a pressure sensing sleeve as an attachment to generic tooth-brushes for toothbrushes to prevent over-brushing

Certifications

Machine Learning Foundations: A Case Study Approach by Coursera (97.7%): [View Certificate](#)

EXTRA-CURRICULAR ACTIVITIES:

3rd year Diploma,

Rabindra Sangeeth, Under
the Bangiya Sanget Parishad,
Bengal.

3rd year Diploma,

Najrul geeti, Under the
Bangiya Sanget Parishad,
Bengal.

2nd year Fine Arts,

5 years of formal training
Under the Bangiya Sangeeth
Parishad, Bengal.

Taught underprivileged

children under Sashakt gram
nirmaan Kendra, an NGO that
helps growth in rural Indian
villages in Jharkhand, India

I HEREBY ATTEST THAT THE INFORMATION PROVIDED ABOVE IS ACCURATE
TO THE BEST OF MY KNOWLEDGE.



Monday, April 22, 2019