

Aravinth Panch

1 Personal Data

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2 Work Experience

APR 2020	Co-Founder Chief Technology Officer
JUN 2019	<i>Watergenics UG, Berlin, Germany</i>
JUN 2019	Head Of Embedded Systems Engineering
AUG 2017	<i>Next Big Thing AG, Berlin, Germany</i>
JUL 2017	Lead Embedded Systems Engineer
APR 2016	<i>Senic GmbH, Berlin, Germany</i>
MAR 2016	Co-Founder Chief Technology Officer
OCT 2015	<i>Macsexperts, Bangalore, India</i>
SEP 2015	Embedded Systems Engineer
AUG 2015	<i>SmartB Energy Management GmbH, Berlin, Germany</i>
MAY 2015	Systems Architect
OCT 2014	<i>The Jodel Venture GmbH, Berlin, Germany</i>
SEP 2014	Embedded Systems Engineer
JAN 2013	<i>Yetu AG, Berlin, Germany</i>
JUL 2011	Senior Software Engineer
APR 2011	<i>Infosys LTD, Mysore, India Systems Engineer</i>
MAR 2011	Co-Founder Chief Technology Officer
NOV 2009	<i>Academia Grandiosa Medicinae, New Delhi, India</i>
OCT 2009	Systems Engineer
OCT 2008	<i>Tata Consultancy Services LTD, New Delhi, India</i>

3 Education

2015 | Master of Science in ELECTRICAL ENGINEERING, **Technical University of Berlin**

	<p>Courses : Electromagnetic Field Theory, Electronics, Communication Networks and Technologies, Artificial Intelligence, Robotics, Machine Learning, Vehicle-To-Vehicle Communication for Autonomous Vehicle, Embedded Systems, Biometric Identification, Computer Security.</p> <p>Thesis : Gesture Recognition for Human-Robot Interaction: An approach based on skeletal points tracking using depth camera</p>
2008	<p>Bachelor of Technology in ELECTRONICS AND COMMUNICATION ENGINEERING, SRM University, Chennai, India</p> <p>Courses : Electronics, Analog & Digital Communication Technologies, Microcontrollers, Electrical Networks, Circuit Theory, Electromagnetic Field Theory, Signal Processing, Image Processing, Integrated Circuits, Control Systems, VLSI, Embedded Systems</p> <p>Thesis : GSM Cell Phone controlled Two Axes Robot with artificial intelligence for the detection of Fire, Temperature and Metal</p>
2003	<p>Associate Degree in Multimedia (Graphics, Animation and Web design), ARENA Multimedia, Chennai, India</p> <p>Courses : Graphic design, Web design, Illustration, Animation, Sound & Video Editing using <i>Photoshop, HTML, CSS, Dreamviewer, illustrator, Flash, 3ds Max, Sound Forge, After FX</i></p>

4 Projects

List of freelancing projects for private clients, academic research projects, new media art projects, Hackathon challenge and personal projects.

2016	<p>Swan Lake Music Art, Private, Berlin, Germany</p> <p>Swan Lake Music Art is a project of electronics and firmware to provide monotonic music for a multilayer painting about Russian Ballet which is painted by a fine artist who has been working on the project to exhibit the beauty of Ballet dance. Since the painting is on thinner canvas, the form factor of electronic should be thinner and smaller.</p> <p>Technology: Tchaikovsky SwanLake Music, Attiny85, Monotone, AVR, Kicad, Arduino ISP, Piezo, Mus-escore, Midi, PWM, 440Hz</p> <p>Link https://github.com/AravindhPanch/swan-lake-music-art</p>
2015	<p>Gesture Recognition for Human-Robot Interaction: An approach based on skeletal points tracking using depth camera, Master Thesis, Distributed Artificial Intelligence Lab, Berlin, Germany</p> <p>Gesture Recognition For Human-Robot Interaction with modelling, training, analysing and recognising gestures based on computer vision and machine learning techniques.</p> <p>Technology: HRI, Aldebaran NAO, Humanoid Robot, Depth Camera, AsusXtion, OpenNI2, NiTE2, Boost, UDP, WebSocket, ThreeJS, Matlab, C++, Javascript, Python, Gesture Recognition Toolkit, Adaptive Naive Bayes Classifier, Machine Learning, Robotics, 3D printing</p> <p>Link https://github.com/AravindhPanch/gesture-recognition-for-human-robot-interaction</p>
2015	<p>Heart of The City, New Media Art Installation for VIVID Light Festival 2015, Sydney, Australia</p> <p>The Heart of the City is an interactive public art sculpture that pulses light according to the heart beat of the people. The sculpture invites several people to sit and interactive with it.</p> <p>Technology: Heartbeat sensing, Pulse Oximeter, Arduino, LED Neon Flex, Circuit Design, Power MOSFET STP16NF06L</p> <p>Link http://www.anaisafranco.com/heartofthecity, https://github.com/AravindhPanch/heart-of-the-city</p>
2014	<p>Smart Green House, Research, Telecommunication Networks Group, TU Berlin, Germany</p> <p>Smart Green House is a scalable plant monitoring system that helps us to monitor our plants and water them automatically.</p> <p>Technology: IEEE.802.15.4, WaspMote, XBee, Light Sensor TSL2561, Moisture Sensor Temperature-Humidity Sensor DHT11, NodeJS</p> <p>Link https://github.com/AravindhPanch/smart-green-house</p>

- 2013 | **RSSI based Indoor localization and Raw Ranging Data Visualization**, *Research, Telecommunication Networks Group, TU Berlin, Germany*
Indoor localisation using RSSI. RSSI is received signal strength indicator in IEEE 802.11 beacon packet and beacon packets are transmitted periodically to announce the presence of WiFi.
Technology: IEEE.802.11, Beacon Packet, RSSI, NodeJS, D3JS, Matlab, TWIST Testbed, Signal Jammer, WiSpy Spectrum Analyzer, Turtlebot, ROS, Javascript, Python
Link | <https://github.com/AravindhPanch/rssi>
- 2008 | **GSM Cell Phone controlled Two Axes Robot with artificial intelligence for the detection of Fire, Temperature and Metal**, *Bachelor Thesis, SRM University, Chennai, India*
The objective is to control a Robot over a long terrestrial distance by using GSM Network instead of using other communication technologies which have shorter range.
Technology: Two axis Robot, GSM cell phones with DTMF, DTMF receiver – UM92870, Sensors to detect temperature, fire and metal (IR LED, LDR, NTC), Micro Controller – 89c51, Buzzer
- 2014 | **Stereo Acoustic Light Emitter**, *Hackathon Challenge, Science Hackday Berlin 2014, Best Data Hack Award*
It is an audio-visual system that makes use of spectral Tube and sensors to create a feedback system.
Technology: spectral tube, OSC, MIDI synthesizer, Arduino, proximity sensor, infrared sensor, touch sensor, microphone, circuit board
Link | <https://github.com/AravindhPanch/stereo-acoustic-light-emitter>
- 2014 | **Confusion**, *New Media Art Installation, Creative Code Jam, Berlin, Germany*
Confusion is an emotional sculpture in the form of a head with two faces that talks with the spectator when someone touches it.
Technology: Acrylic, Laser cutting, Plasma ball with Tesla coil, Current sensor, Arduino, MP3 shield, speakers
Link | <https://github.com/AravindhPanch/confusion-sensitive-sculpture>, <http://www.anaisafranco.com/confusion>
- 2014 | **Home DNS**, *Personal, Internet of Things*
Home DNS is simple tool that will allow us to access our home LAN over internet.
Technology: NodeJS, RaspberryPi, Cloud, Port forwarding
Link | <https://github.com/AravindhPanch/home-dns>
- 2014 | **Yetu CAM**, *Research, Yetu AG, Berlin, Germany*
Yetu CAM is a simple telepresence robot. A telepresence robot is a remote-controlled, wheeled device with a display to enable video chat and videoconferencing, among other purposes.
Technology: Arduino Yun, 360 deg Servo Motor, MDF Laser Cut
Link | <https://github.com/AravindhPanch/yetu-cam>
- 2013 | **StreeMuFi**, *Hackathon Challenge, Hack4Good, Berlin, Germany, Winner*
Street Music Finder (StreeMuFi) is a project to help street musicians earn a living with their music. Here you can search for street musicians and ask them to play a gig at your event.
Technology: PHP, Android, NodeJS, MySQL, GeekList
Link | <https://github.com/AravindhPanch/streemufi>
- 2013 | **Autonomous Vehicle**, *Research, Daimler Center for Automotive Information Technology Innovations (DCAITI), Berlin, Germany*
Vehicle-to-Vehicle Communication for autonomous vehicle to support Cooperative Adaptive Cruise Control (CACC) and Media Prefetching.
Technology: Java, VSimRTI Simulation, Mercedes Benz, v2v, v2x
- 2014 | **Academics-LMU**, *Freelance, Liaoning Medical University, Liaoning, China*
E-Learning web application for medical students to attend various test series.

Link	Technology: Wordpress, WPLMS, PHP, My SQL http://academics-lmu.com
2013	Shanti CRM, Freelance, Bevermann Telesalesfactory, Berlin, Germany Customized CRM based on Microsoft Dynamics CRM to manage marketing campagne. Technology: Microsoft Dynamics CRM, SIP, Visual Studio, WPF, MVVM, Javascript
2007	Steganography, Freelance, SRM University, Chennai, India Steganography is the art or practice of concealing a file, message, image, or video within another file, message, image, or video. Technology: Visual Basic, Image Processing, RGB Link https://github.com/AravinthPanch/steganography
2003	Interactive Anatomy, Freelance, Moscow Medical Academy, Moscow, Russia Interactive application for medical students to learn anatomy of human body. Technology: Flash, Sound Forge, Photoshop

5 Certifications and Test Scores

2009	CCNA - Cisco Certified Networking Administration
2010	EC-Council - Ethical Hacking
2010	IELTS - International English Language Testing System. <i>Score: 7.5/9</i>
2012	TestDAF - Test of German as Foreign Language. <i>Score: 16/20</i>

6 Award

2011	Erasmus Mundus Scholarship for outstanding students from Third-Countries to pursue higher education in Europe
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7 Languages

	TAMIL: Native proficiency
	ENGLISH: Bilingual proficiency
	GERMAN: Full professional proficiency
HINDI & URDU & MALAYALAM:	Limited working proficiency
	RUSSIAN: Elementary proficiency

8 Skills

Programming languages:	C, C++, C#, Java, Javascript, Python, MATLAB, Unix Shell Script
Frameworks/Library:	.Net, WPF, Silverlight, Boost, NodeJS, BackboneJS, ReactJS, MochaJS, CSS, HTML, WebGL, Arduino, Processing, OpenCV
Database/Cache:	MS SQL, My SQL, Postgres, MongoDB, Redis Cache
IDE:	Vim, Visual Studio, Xcode, Eclipse, uVision, WebStorm, PyCharm
OS:	Embedded Linux, Linux, Android, OSX, Windows
Communication Protocol:	Z-Wave, ZigBee, IEEE 802.15.4, I2C, SPI, Bluetooth, DALI, KNX, CAN
DevOp :	Ansible, Chef, ElasticSearch, Logstash, Kibana
Robotics:	AI, Machine Learning, Computer Vision, ROS, Aldebaran NAO
Electronics:	Semiconductors, Microcontrollers, Circuit Design, PCB design, PCB Etching, Digital and Analog sensors, Automation & Control Systems, Signal Processing
Fabrication:	3D printing, Sheet Metal fabrication, Laser Cutting, Welding, CNC Milling, Vinyl Cutting, Plotting
Media:	2D Animation, Flash, Photoshop, Illustrator, 3D modeling, Fusion 360, Sketch Up

9 Interests and Activities

Research & Development, Open Source, Programming, Electronics, Robotics, Artificial Intelligence, Bionics, UAV, Machine Learning, Statistics, Data Visualization, Algorithms, Computer Vision, Image Processing, Internet Of Things, Wireless Technologies, Deep Security, Computer Networks, Physics, Mathematics, Quantum Mechanics, Creative Coding, Art, Painting, Graphic Design, Animation, 3D, Archery, Martial Arts, Agriculture, Sustainability, Languages, History, Making & Fabrication,

10 Contribution

MENTOR	SINGA Deutschland Volunteering to help qualified Refugees to get a place in German Job market by mentoring on Technical and Soft skills. Link http://singa-deutschland.com
FOUNDING MEMBER	Sustainability Drinks Berlin It is a series of regular get-together to promote an active sustainability movement in Berlin to create an awareness about the environment, energy conservation, health and hygiene. Link http://sustainabilitydrinks.de
ORGANIZING TEAM	Science Hackday Berlin Science Hackday brings together designers, developers, scientists and other geeks in the same physical space for a brief but intense period of collaboration, hacking, and building 'cool stuff'. Link http://berlin.sciencehackday.org
TEAM MEMBER	DAInamite Humanoid Robot Team, Robocup Standard Platform League RoboCup is an international scientific initiative with the goal to advance the state of the art of intelligent robots. Link http://www.dainamite.de

Cover Letter

Aravinth is an interdisciplinary expert with 17+ years of global experience in science, engineering, arts and sustainability, with the core expertise in research, development and production of electro-mechanical embedded systems and digital products.

As an entrepreneur, he co-founded 7 organisations in the sector of education, sustainability, agriculture, consulting & engineering services, in Asia & Europe.

As an engineer, he worked for 2 corporates in the telecom sector and worked for 8 tech startups in the sector of education, smart home, media, agriculture, energy, healthcare & water, in Asia & Europe.

As an educator, he trained several young innovators and mentored 120+ deep tech startups in the domain of advanced materials, healthcare, agriculture, aerospace, energy, automotive & biotechnology, globally.

As a scientist, he researched at 4 academic research institutions in the field of wireless technologies, autonomous vehicles, biometrics, humanoid robotics & machine learning, in Germany.

As an advisor, he supported several individuals, startups, accelerators, incubators, innovation hubs, corporates, investors, manufacturers, research institutions, universities, government initiatives, art galleries and social enterprises, globally.

As an artist, he has co-created several new media art installations for temporary and permanent exhibitions, which attracted more than 1.5 million visitors, in Germany, Australia & USA.

As a community builder, he co-created and has been curating several communities for startups, sustainability, education & art, in Asia, Europe & Africa.

More info at www.aravinth.info