

Dhaval Singh

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EDUCATION

BITS Pilani - K.K Birla Goa Campus

Goa, India

M.Sc. Physics and B.E. Electronics And Instrumentation

Expected May 2020

Relevant Coursework: Electronic Devices, Microprocessors Interfacing, Theoretical Neuroscience, Satellite communications, Digital Design, Computational Physics, Mobile Telecom network, Control Systems, Principles of Economics, Cinematic Arts, Digital image processing.

St.Xaviers high school

Gujarat, India

Gujarat state board | 12TH GRADE | PERCENTILE: 93.45

May 2014

St.Xaviers high school

Gujarat, India

Gujarat state board | 10TH GRADE | PERCENTILE: 98.37

March 2012

SKILLS

- **Technical Proficiency:** C++, C, Java, Data Structures, Algorithms, Matlab, Physics Simulation.
- **Networking:** Familiar with networking fundamentals like routing, topology, OSI model, TCP/IP, IP Addressing, practical wired and wireless technology.

EXPERIENCE

eGovernments Foundation

Bengaluru, India

Software Engineer - Microservices Intern

Aug 2019 - ongoing

- **Configuring Urban Municipal Websites:** DIGIT is a comprehensive, state of the art Open-source, interoperable and scalable civic tech solution for citizens and city administration to manage, monitor and interact in a transparent, effective and efficient manner. Worked on upgrading and maintaining core web applications based on a Microservices software architecture, Java Spring Boot framework, Web Services, Restful web services, JDBC and PostgreSQL.

Vedanta Limited

Orissa, India

Electronics Intern

May 2017 - July 2017

- **Programming PLC in IPP:** Implemented optimization and protection in starting of **Induction motor** using Ladder logic and C programming for Programmable Logic Controller's (PLC) of the Independent Power Plant.

FCIPT, Institute of plasma research

Gujarat, India

Physics intern

August 2017

- **BN/BNSiO₂ sputtering yield shape profiles under stationary plasma thruster operating conditions :** Assisted the research team in the experimental setup with a rotatable **Quartz Crystal Microbalance(QCM)** and helped validate results with the famous **Sigmund, Zhang and Bohdansky** sputtering theories.

PROJECTS

- **Object detection from Traffic Camera Videos:** A probabilistic graphical model for object detection using *Gaussian mixture model(GMM)*, *Background isolation/foreground detection* and *Bob analysis* to detect, track and count moving objects in traffic camera videos at 25fps.
- **Use of computational Physics in determining Neutron stars as potential gravitational wave emitters.:** *RNS Code(in C)* was used to solve the *Tolman-Oppenheimer-Volkoff (TOV)* equations and further used to construct models of non-rotating, relativistic, compact stars using tabulated equations of state which are supplied by the user.
- **Spirit level reaction time tester:** Implemented a working model of reaction time tester on *Proteus Design Suite*, working around mainly '8255 Programmable Peripheral Interface' and '8253 Programmable Interval Timer' with a 7 Segment Display.
- **Proximity sensing intruder alarm system:** This Project was implemented on Eagle and a PCB was developed and optimised, using *IC NE555* and *LM358 op-amp* as primary components.
- **Short Film - "Perspective":** Director and Writer of "Perspective", 3min-14sec Short film of genre (Thriller/Comedy).

ADDITIONAL EXPERIENCE

- Successfully completed and acquired certification on *Networking and Security* by *Nettech*.
- Member of *BITSKRIEG* (Bits goa CTF team) and participated in multiple international cybersecurity and penetration testing competitions (Capture-the-Flag).
- Completed a 2 month online training program by *QSTP* (Quark summer technical program) in *Ethical hacking* and ranked **First** in the *Ice-CTF* organised by them.
- Headed a *career counseling* workshop for 3 days for the local kids on choosing future area of study and preparing for competitive exams as well as Olympiads at a rural village.

HOBBIES

- Have been actively *gaming* for last 8-9 years, with active participation in *game development*.
- Co-author of a [blog](#) based on *Film making* and *Reviews*.
- Interested in *PC Building*, *Fitness(Power-lifting)*, *Film making* and *various aspects of interactive media*.