

Arnav Dhamija

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EDUCATION

BITS HYDERABAD

B.E. IN COMPUTER SCIENCE

Expected Graduation May 2019

CGPA: 8.407/10

NATIONAL PUBLIC SCHOOL HSR LAYOUT, BANGALORE CBSE

Graduated March 2015

AISSCE Score: 95.6%

LINKS

GitHub:// [shortsttheory](#)

LinkedIn:// [arnav-dhamija](#)

SKILLS

PROGRAMMING

Experienced

• C++ • C • Python • Java • Android

Intermediate

• Bash • Node.JS • SQL • OpenGL

Familiar

• MATLAB • QML • L^AT_EX

CONFS PRESENTED AT

• WikiToLearn 2017 - Jaipur, India

• Akademy 2017 - Almería, Spain

• QtCon 2016 - Berlin, Germany

WORKSHOPS CONDUCTED

• Introduction to the Linux Shell

• The Road to GSoC

• Introduction to Open Source

GRE

• Score: 332/340 + 4.5/6.0 AWA

• 163 Verbal / 169 Quant

DEPARTMENTS & SOCIETIES

• Computer Science Association

• Automation & Robotics Club

LEADERSHIP

• Computer Science Association:

Technical Head (2017-18)

EXPERIENCE

GOOGLE SUMMER OF CODE | ARDUPILOT: APSTREAMLINE

April 2018 – August 2018 | Bangalore, India

- Worked on a **network adaptive**, H.264 **live-streaming solution** for low-power embedded systems on robots over unstable WiFi links
- Optimised performance of video streaming by using **GPU hardware encoding** and dynamically configuring encoder settings using GStreamer
- Created a web dashboard for configuring multiple camera streams at once

GOOGLE SUMMER OF CODE | KDE: KIO-STASH

April 2016 – August 2016 | Bangalore, India

- Implemented an **original idea** for virtual folder support in the KDE **Input/Output** subsystem using C++11 and Qt
- Learned automated unit testing, version control, and online collaboration
- Successfully **shipped** the application in KDE's Extragear software repository

RESEARCH

VECTORS | ANDROID DISRUPTION TOLERANT NETWORK (DTN)

Feb 2018 – May 2018 | Hyderabad, India

- Worked on the **Vectors research project** to transfer **Scalable Video Coding** encoded video using a DTN developed for Android devices
- Developed an app using the **Android Nearby API** for connecting Android devices over Bluetooth autonomously
- Successfully conducted an trial run in campus with **fifty** participants transferring data over a radius of **1.2 km**
- Wrote a SoftwareX Journal paper (under review), under **Mr. Abhishek Thakur**

STUDY ORIENTED PROJECT | CHALLENGES IN 3D PRINTING

Jan 2018 – April 2018 | Hyderabad, India

- Conducted a **literature review** of the challenges in Fused Deposition Modeling 3D Printing under **Prof. Tathagata Ray**
- Studied contemporary algorithms for **improving print quality** and structural integrity of 3D printed models and modeled several 3D test prints

PROJECTS

COMPUTER GRAPHICS | 3D RENDERER IN OPENGL 3.3

- Created a **3D Viewer** with a user controlled camera to render a Children's Park using the **OpenGL 3.3 shader** pipeline
- Implemented **ambient and diffused** lighting models by programming fragment and vertex shaders and designed 3D models in Blender

MACHINE LEARNING | ID3 IN C++11

- Implemented an **ID3 classifier** from scratch using C++11 and SQLiteCpp for predicting income from the **1994 US Census dataset**
- Extended the classifying capabilities of the algorithm by using **Random Forests** and **Reduced Error Pruning** techniques
- Achieved 81% accuracy on test data using standard ID3 and 96% accuracy using Reduced Error Pruning