# Piyush Rane

SENIOR YEAR UNDERGRADUATE | COMPUTER SCIENCE AND ENGINEERING

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## EDUCATION

**IIT KANPUR**
B.Tech, Computer Science
July 2018-2022 (Expected)
CPI: 7.9/10.0

**R.K.V.M GWALIOR**
12th Grade (CBSE) | 2018
Percentage: 90.6/100

**K.V. NO - 5 GWALIOR**
10th Grade (CBSE) | 2016
CGPA: 10/10

## COURSEWORK

Fundamentals of Computing
Data Structures and Algorithms
Software Development and Operations
Principles of Database Systems
Operating Systems
Compiler Design
Computer Organisation
Theory of Computation
Introduction to Machine Learning
Python for Everybody (*)
Discrete Mathematics
*Online Coursera specialisation*

## SKILLS

**Programming Languages**
C++ • C • Python • Javascript
HTML • CSS • bash
**Tools**
Google Firebase • SQLite3 • MongoDB
Github • Docker hub • LATEX • lex • yacc

## EXTRA-CURRICULAR

**JUNIOR EXECUTIVE**
Worked in **Techkriti Open School Championship** team and was responsible for fair conduction of exam for 200+ students.

**AWARD - ART CONTEST**
Secured **Special mention** by competing with other IITs in the **Inter Institute Art Contest** organised by IITB .

**DANCE COMPETITION**
Secured **First** position in the **IITK Inter-hall** group dance competition

## WORK EXPERIENCE

**AXIS BANK**                     May 2021 – July 2021
*Summer Internship*                    *Secured PPO*
- Created a **single node kubernetes** cluster locally using **Minikube** and a **multi-node kubernetes** cluster on **AWS** using **Amazon EKS**
- Deployed and customized the open source **RASA chatbot** on these clusters
- Enabled the cluster for **automatically scaling up/down** the number of **pods**
- Technologies: **Docker, Kubernetes, Minikube, RASA, Github, helm, Nginx**

**IITK SUMMER OF CODE**            May 2019 – July 2019
*Full stack developer intern*          🐙 *Touch-EPFM*
- Received intensive training in technologies used in **Full-Stack** development
- Collaborated in a team of five to **develop** an Employee Feedback Mechanism **web-app** that **automated** the manual **feedback system** of employees
- Implemented different **functionalities** for **Admin, Supervisors & Employees**
- Technologies: **JS, HTML, CSS, JQuery, Bootstrap and Google Firebase**

## ACHIEVEMENTS

2021 - **Received Pre-placement offer** for the role of **analyst** from **Axis Bank**
2018 - **Qualified Stage 1** of KVPY, Indian Institute Of Science Bengaluru
2017 - **Qualified both stages** of KVPY, Indian Institute Of Science Bengaluru

## PROJECTS

**C - COMPILER** | Prof.Amey Karkare      Jan 2021 – April 2021
*CS335A Course Project*             🐙 *CS335A-Compiler-Design*
- Built a **compiler for C** by performing **lexical, syntax and semantic** analysis
- Produced **abstract syntax tree** in **dot** script and generated **assembly code**
- Used **3AC** as **intermediate language** to connect source & target language
- Source - **C**, Implementation - **C++**, Target - **x86 Assembly (AT&T Syntax)**

**DATABASE ANALYSIS** | Prof. Arnab B.    Jan 2021 – April 2021
*CS315A Course Project*             🐙 *Database Analysis*
- Analyzed **database systems** using **4 queries** on various **size** databases
- Measured the **time taken** by queries and represented them in **graphs**
- Database: **MongoDB, SQLite3, MariaDB**, Tech stack: **Python, bash, expect**

**GEM OS** | Prof. Debadatta M.          Sept 2020 - Dec 2020
*CS330A Course Project*
- Implemented OS elements such as **Paging, File system** & **Message Queues**
- Programmed various **system calls** such as **open, read, write, dup2, lseek**
- Implemented memory management operations like **mmap, munmap** and **huge page creation**

**APP DEVELOPMENT**                Feb 2019 - April 2019
*Association for Computing Activities(ACA)*
- Learned **Linux/Unix commands** through **Bandit OverTheWire Wargames**
- Built a calculator in **HTML, CSS, JS** and a Time Table App in **Android Studio**