Nabarun **Pal**

Software Engineer | Open Source Contributor | Containers and Orchestration

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Summary

An experienced graduate from IIT Roorkee working as a Platform Engineer in the PaaS/SaaS industry with demonstrated skills in Python, Kubernetes, AWS, Terraform, Golang. Worked in varied domains since university days. Awarded fellowships and scholarships by organizations like NumFocus and Cloud Native Computing Foundation. Spoken about his experiences and work at conferences in India and abroad.

Education

2018 | **8.35/10, Bachelor of Technology** | Metallurgical and Materials Engineering with Minors in Computer Science and Engineering, Indian Institute of Technology, Roorkee

2014 | **89.0/100, AISSCE** | Central Board of Secondary Education, Lawrence and Mayo Public School, Kota

2012 | **10/10, AISSE** | Central Board of Secondary Education, Sri Krishna Mission School, Agartala

Work Experience

Jan 2020 – Current | **Infrastructure Engineer, Clarisights, Bengaluru**

- Building a BI platform for data driven marketing teams
- Managing and curating our transactional datastore handling over 4TB of data having 150Billion+ datapoints
- Implementing infrastructure isolation for clear separation across tenants

Python | Ruby | Git | Docker | PostgreSQL | Kubernetes | GCP | Terraform | Ansible

May 2018 – Jan 2020 | **Platform Engineer, Rorodata Technologies, Bengaluru**

- Building the next generation demand planning system encompassing all aspects of a FMCG planners daily work
- Engineered the core compute component of Algoshelf an AI based enterprise planning system
- Designed and implemented HyronML a PaaS on top of Kubernetes allowing anyone to easily deploy their applications to Kubernetes
- Implemented microservices to coordinate running scheduled jobs and on demand jobs
- Maintained the legacy code and microservices running our services and platform
- Authored lambdapool - an open source framework for easily deploying algorithms to AWS Lambda
- Presented Lambdapool at AWS Community Day Bangalore 2019

Python | Git | Docker | Kubernetes | Golang | AWS | GCP

Internships

June 2018 – August 2018 | **John Hunter Matplotlib Summer Fellow, NumFocus**

- Selected amongst 2 students for the fellowship out of hundreds of applicants worldwide
- Co-authored mpl-altair an interfacing library to render Altair chart using Matplotlib
- mpl-altair aimed to provide an alternative paradigm of writing visualizations to Matplotlib users
- The project benefited the users by providing ability to render charts in various output formats

Python | Matplotlib | Altair | Git

May 2017 – July 2017 | **Software Development Engineer, Rorodata Technologies, Hyderabad**

- Built an universal data science platform for enabling the data scientists to deploy and scale ML applications
- Systemized cloud based automatic data extraction and storage from IoT devices reducing development time by 80%
- Delivered microservices architecture for running, storing and logging scheduled jobs by users
- Co-authored firefly - an open source function-as-a-service framework which is used in internal platform tools
- Presented my internship projects at PyData Delhi 2017, PyCon India 2017 and FOSSASIA Summit 2018

Python | Git | AWS | Bootstrap | Raspberry Pi

May 2016 – July 2016 | **Full Stack Engineer, Gurupriyam Innovations, Bengaluru**

- Innovated experiential products using Leap Motion Controller and various web APIs like Twitter Stream API
- Built personalized software interface for a Smart Mirror module which provides relevant information to users
- Designed a productivity enhancement device to track employee sitting time and remind them of stroll breaks
- Developed IoT based Water Saving Automatic Irrigation System controller using 555 timer and ESP8266

Python | Twitter API | NodeJS | ESP8266

Talks

- **2020** | **Kubernetes Meetup Bengaluru** | Extending Kubernetes - The Kubernetes Client Universe
- **2019** | **AWS Community Day Bengaluru** | Making AWS Lambda simpler for data scientists
- **2018** | **FOSSASIA Summit Singapore** | Building microservices with Firefly
- **2017** | **PyCon India** | Building microservices with Firefly
- **2017** | **PyData Delhi** | Building camera based intelligent applications

Skills

Programming Languages :	Python, Golang, C, JavaScript(ES5, ES6), HTML, CSS, SQL, LaTeX
Databases :	PostgreSQL, Google Cloud Datastore, Google Cloud BigQuery
Containerization/Orchestration :	Docker, containerd, Kubernetes
DevOps :	Gitlab CI, Github Actions, Google Cloud Build, Vault, Terraform, Ansible, Docker Compose
Web Services :	Amazon Web Services, Google Cloud Platform
Data Analytics/Visualization :	Pandas, Scikit-learn, Numpy, Matplotlib, lib-svm, Keras
Developer Tooling :	Git, Vim, GNU/Linux

Volunteer Experience

February 2020 – Current

Technology Workgroup Lead, PyCon India 2020

- Leading the efforts in modernizing the conference infrastructure
- Working on the in-house CFP Platform - Junction
- Modernizing the automated deployment infrastructure on PyCon India - Magudi, a Salt Stack based tooling

April 2019 – Current

Kubernetes Contributor, Cloud Native Computing Foundation

- Volunteer in various Special Interest Groups and Working Groups
- Leading the Kubernetes 1.19 Release Team Enhancements Vertical (SIG Release, SIG PM)
- Part of the Kubernetes 1.17 and 1.18 Release Team as an Enhancements Shadow (SIG Release)
- Contributing to Kubernetes Python Client as a release maintainer and bug triage volunteer (SIG API Machinery)
- Part of the Events team organizing Kubernetes Contributor Summit North America (SIG Contributor Experience)
- Managing Kubernetes Community Infrastructure (WG K8S Infra)

Achievements

- Recipient of Cloud Native Computing Foundation Scholarship to attend KubeCon+CloudNativeCon North America 2019
- Recipient of Cloud Native Computing Foundation Scholarship to attend KubeCon+CloudNativeCon Europe 2019
- Awarded John Hunter Matplotlib Summer Fellowship by NumFocus 2018
- 1st Position out of 30 colleges in Robosapiens, Cognizance 2017
- Best Aesthetic Robot in ABU Robocon 2016 India Leg
- 2nd Position out of 45 colleges in Robosapiens, Cognizance 2015
- Awarded the distinction of Dedicated Proficiency Holder for distinguished social service in NSS for the year 2014-2015
- Recipient of Merit-cum-Means Scholarship for 4 consecutive years for outstanding academic achievement 2014-2018

Featured Projects

October 2017 – January 2018

Soldier Support Systems | Inter IIT Technical Meet 2018, IIT Madras

- Designed a localization system for real time position estimation of soldiers in a battlefield
- Developed a Raspberry Pi based Heads Up Display for displaying the information collected from other users
- Integrated Health Monitoring & Localization subsystems with Raspberry Pi based latch on device for each soldier
- 4th position at 6th Inter IIT Tech Meet Madras 2018 out of 23 participating teams from other IIT's

Python | PyQt | ZigBee | Raspberry Pi

Aug 2016 – March 2017

Asobi : The Landing Disc | Team Robocon IITR, IIT Roorkee

- Built Frisbee Throwing Robot with two throwing mechanisms solving the problem statement of ABU Robocon 2017
- Spearheaded software systems for the whole robot including sensor units, computer vision and navigation modules
- Delivered navigational algorithms for mechanum wheeled robots for precise odometry using Optical Flow Sensors
- Designed Python and C++ libraries to get data from generic USB Joysticks and DualShock 3 controllers using any Linux based system or Arduino

Python | C++ | OpenCV | Arduino | Raspberry Pi

Aug 2016 – March 2017

Swarm Robotics | Models and Robotics Section, IIT Roorkee

- Delivered 4 microbots which could perform synchronous tasks like geometrical formations and coordinated motion
- Designed system for communication of robot coordinates from localizer module to robots using client server model
- Developed image processing algorithm for detection micro robots on the movement plane

Python | OpenCV | ESP8266

January 2017 – March 2017

Indoor Localization | Inter IIT Technical Meet 2017, IIT Kanpur

- Fabricated an Autonomous robot which can localize itself based on WiFi signals
- Developed an algorithm to calculate robot movement parameters from WiFi Received Signal Strength
- Gathered data using two Edimax WiFi modules through Unix commands running as root
- 5th position at 5th Inter IIT Tech Meet Kanpur 2017 out of 18 participating teams from other IIT's

Python | Raspberry Pi