

Boudhayan Gupta

München (Deutschland), available for relocation

Nationality Indian

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PREFERRED ROLES Software Engineer (Python/C++), DevOps Engineer, System Administrator

PROFESSIONAL EXPERIENCE

July 2017 - Present PPRO Financial Ltd, Landsberger Str. 110, München, Deutschland
Software Developer (C++/Unix)

At PPRO, I work on integrating a large distributed payment processing platform with multiple alternative payment method providers (i.e., non-card payment methods) so that merchants can accept payment from customers using their preferred payment methods. The platform is written in **C++** and **Python** and runs on a **FreeBSD** based cluster environment.

January 2017 - July 2017 eGym GmbH. Prannerstraße 2-4, München, Deutschland
Intern, Embedded Systems

At eGym, I work on a fairly large codebase of an embedded application written using **Qt5**, in **QML** and **C++**. I've worked on porting and optimising it for ARM to run on Raspberry Pi hardware inside a fitness machine, as well as maintaining a build- and test-system to cross-compile and autotest the software on multiple (ARM and x86-64) target hardware types. Other main technologies I've used here include **OpenGL**, as well as **Docker** and **Shell**.

June 2016 - July 2016 1mg Technologies Pvt. Ltd. 1, MG Road, Sector 14, Gurgaon, India
Intern, DevOps Engineering

1mg, formerly HealthKartPlus, allows people to research and buy prescription drugs online through a website and mobile apps for various platforms. As an intern working on **deployment and testing automation**, I streamlined their release process, enhanced the security and modularity of their server set-up, and worked on **reproducible builds** and **auto-scaling**. I worked on infrastructure hosted on the **Amazon AWS** cloud, and used **Ansible** and **Docker** as my primary tooling, with **Python** as my primary programming language.

June 2016 - Present KDE e.V. Schönhauser Allee 6/7, Berlin, Deutschland
Member, Community Working Group (unpaid volunteer position)

KDE e.V. is a registered non-profit organisation which represents the KDE Community (a worldwide community of open source software engineers, artists, testers and translators) in financial and legal matters, and provides infrastructural support.

As a member of KDE e.V. a System Administrator, I work on the following:

- Managing a heterogeneous **Git** and **Subversion** mirror network, consisting of a read-write server, various read-only mirrors spread worldwide, and a mirror of all Git repositories on GitHub
- Negotiating sponsorship deals for infrastructure support with companies, including hosters, cloud server providers and CDN networks.

EDUCATION AND TRAINING

- Graduated in September 2017 **Bachelor of Technology, Computer Science and Engineering**
NIIT University, Neemrana
- CGPA: 6.97 (scale of 10.0)**
- Selected Courses: Computer Programming in C, Object Oriented Programming in C++, Data Structures and Algorithms, Analog Electronics, Microcontrollers and Microprocessors, Advanced Embedded Systems.*
- Graduated in March 2013 **Shree Bharati (now Birla Bharati)**
Central Board of Secondary Education
- Class X (2011): CGPA 8.8 (83.6%, Science 9.0, Math 9.0)**
Class XII (2013): 75.8% (Computer Science 91%, Physics 75%)

PERSONAL SKILLS

- Technical** Highly proficient in Python, C++, Qt and QML and C, familiar with JavaScript and Java, Fortran, x86, 8051 and ARM unified assembly.
- Primarily a Qt5 (C++) and Python3 based developer, I also have good command over UNIX-like systems, and can effectively manage Linux and BSD systems and distributed server infrastructure.
- As a DevOps engineer, I'm intimately familiar with Git including its internals. Also familiar with Ansible, Docker, LXC, Redis and RabbitMQ, and shell scripting.
- Languages** English (Native), Hindi (Professional), Bengali (Professional)
- Communication** I have extensive experience collaborating with a multicultural (primarily Western European, US and Indian) community, an environment in which I am extremely comfortable.
- Hobbies and Interests** I enjoy reading and quizzing, and I love travelling. I am fascinated by foreign languages and try to learn a few from time to time.
- I like electronics, and am especially interested in audio electronics, and have designed analog audio equipment (USB DACs and headphone amplifiers) as a hobby.

PROJECTS

- March 2015 - Present **Spectacle C++, Qt5, KDE Frameworks 5**
- An advanced screenshot utility for the KDE desktop, released as part of the triannual KDE Applications release, replacing the 14 year old KSnapshot.
- <https://github.com/KDE/spectacle/>
- January 2016 - Present **Propagator Python, RabbitMQ, Git**
- Propagator is a loosely-coupled distributed system for managing the synchronisation of KDE's Git repositories across our anonymous Git mirrors as well as on GitHub. It also delivers commit notifications via IRC and email, and can periodically verify the consistency of all mirrors.

Propagator started as an open-source project but is now KDE-internal.

October 2014 **Dennis C++, Qt5**

A local DNS proxy, which translates UDP requests on the local side to TCP requests on any outbound port on the remote side, and vice versa, created to subvert DNS-based Internet censorship.

<https://github.com/BaloneyGeek/dennisng/>

Others **KDE Community 2015 - Present**

As a contributor to the KDE Community, I manage the following:

1. I maintain Spectacle, the screenshot utility.
2. I mentor new entrants to the community, as well as students under various mentorship programmes.

Google Summer of Code 2016, Mentor May - August 2016

As a mentor in Google Summer of Code 2016 for KDE, I mentored a student who is building a mechanism to select files from discontinuous locations together in order to be able to copy, move or delete them together.

Google Summer of Code 2017, Org Administrator May - August 2017

In 2017, I joined KDE's Student Programmes team and was one of the organisation administrators managing KDE's participation in the Google Summer of Code programme. As a manager for all mentors as well as being a point of contact for mentors who needed support in managing their students, I was part of a team that managed an unprecedented result of only one failed student in a total of 25 participants this year.

Freelance Software Developer 2013 - 2016

Starting as a freelance software developer while in high school, I have worked on contract for several companies.

- For **L2C2 Technologies**, an independent consulting firm specialising in library management systems, I wrote a WordPress theme for the main website for The West Bengal Public Library Network.
- For **IL&FS Education & Technology Services Ltd.**, I designed a prototype of a bill collection system for the state telecom operator's rural bill payment centers. The application was developed using Python, Tornado and PostgreSQL.

TALKS AND CONFERENCES

March 2009 **Open Source India - Tech Days 2009**, Chennai Trade Center, Chennai

- **How a 14-year Old is a Full-time Linux User** – a FOSS for Everyone success story, delivered when I was 14.

November 2010 **OSSCamp 2010.11**, Jaypee Institute of Information Technology, Noida

- **Remote Control Your Computer with SMS, using Twitter as a Gateway** – demonstrating an application architecture and Python code for accomplishing the same.

October 2013 **Open Source India Days 2013**, NIMHANS, Bangalore

- **Realtime Browser-Server Communications with HTML5 WebSockets** – a tech-review and live-coding session demonstrating how to build realtime web applications with WebSockets.

March 2016 **conf.kde.in**, The LNM Institute of Information Technology, Jaipur

- **How KDE Does Git** – a behind the scenes look at KDE's vast server and project management infrastructure
- **The Story of Spectacle** – how to start contributing to the KDE Project and end up being a maintainer

September 2016 **QtCon 2016**, Berlin Congress Center, Berlin

- **Have You Tried Turning it Off and On Again?** - A status update on KDE Sysadmin's work over the past year, future plans for the Identity service, and updates to the Git and SVN infrastructure

RESEARCH

February 2016 ***A replay-attack resistant message authentication scheme using time-based keying hash functions and unique message identifiers***,
Boudhayan Gupta.

arXiv:1602.02148 [cs.CR]

An extension of Hash-Based Message Authentication Codes with time-dependent keys, providing provable security against replay attacks.