Pranav **Kant**

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Education

University of Utah *Salt Lake City, Utah, USA*
M.S., COMPUTER SCIENCE *August 2018 - May 2020*

National Institute of Technology *Hamirpur, India*
B.TECH., COMPUTER SCIENCE AND ENGINEERING *August 2011 - May 2015*

Work Experience

Collabora *Cambridge, UK*
SOFTWARE ENGINEER *Jan 2016 - PRESENT*
- Second highest contributor worldwide to LibreOffice Online.
- Created a monitoring console from scratch to monitor the LibreOffice Online server from the browser.
- Developed a C++ API to expose comments and change-tracking in LibreOffice core, and then used it to tunnel comments to the browser via LibreOffice Online backend.
- Worked on dialog interaction in the browser by tunneling dialog bitmaps and mouse/key events from LibreOffice in headless mode.
- Developed responsive UI design of LibreOffice Online front-end.
- Developed C++ API for exposing context menus in LibreOffice core, and then used it to add context menu support for LibreOffice Online in the browser.
- Overhauled the LibreOffice Online front-end build system by packaging and bundling JS files using 'browserify'.
- Hardened LibreOffice Online by implementing security headers, and identifying and fixing several security bugs.

Jugnoo *Chandigarh, India*
BACKEND DEVELOPER *Jul 2015 - Jan 2016*
- Maintained backend authorization module used by several Jugnoo apps for authentication; worked on several bugfixes on day to day basis.
- Developed a user referral leaderboard using Redis sorted sets and CSV file importer for the backend support team.
- Integrated PayTM (digital wallet) and Google sign-in in the Jugnoo app backend.

Google Summer of Code 2015 (LibreOffice) *Hamirpur, India*
STUDENT DEVELOPER *May 2015 - Aug 2015*
- Wrote a Gtk+ widget in C++ to expose LibreOffice functionality, and integrated it successfully in gnome-documents.

Google Summer of Code 2014 (GNOME) *Hamirpur, India*
STUDENT DEVELOPER *May 2014 - Aug 2014*
- Added support for browsing DLNA media servers in gnome-photos, GNOME's photo management application.

Woocation *Hamirpur, India*
CO-FOUNDER *May 2012 - Aug 2013*
- Bootstrapped a startup idea - a recommendation engine based travel platform providing optimized routes, weather updates and places to visit.
- Used Natural Language Processing (NLTK package) to expose flight connection, weather, and transportation data in human-readable format.
- Used AWS based Hadoop clusters to crunch OpenStreetMap data to find optimized distances between cities using OSRM (Open Source Routing Machine.)

Conferences & Talks

Oct '17	**Google Mentor Summit**, Invited to represent LibreOffice	*San Francisco, USA*
Oct '17	**LibreOffice Conference**, Talk on "Native comments" and "Dialog tunneling"	*Rome, Italy*
Sep '16	**LibreOffice Conference**, Talk on "New features in LOKDocView widget'	*Brno, Czech Republic*
Sep '15	**LibreOffice Conference**, Talk on GSoC '15 project, "Integrating LibreOffice with GNOME"	*Aarhus, Denmark*
Aug '15	**GNOME Conference**, Talk on GSoC '15 project, "Integrating LibreOffice with GNOME"	*Gothenburg, Sweden*
Jul '15	**Fedora Conference**, Talk on "Automated UI testing"	*Pune, India*
Jul '14	**GNOME Conference**, Talk on GSoC '14 project, "Browsing DLNA Media servers"	*Strasbourg, France*

Honors & Certificates

2014	**Certificate of Appreciation**, Awarded by Computer Center, NIT Hamirpur, for reporting and fixing major security vulnerabilities in college server: Microsoft SQL server vulnerability found by using Metasploit, SQLi, and XSS at few places in the website.	*NIT Hamirpur, India*
2014	**Winner**, Annual Coding competition at ISTE (Indian Society of Technical Education)	*NIT Hamirpur, India*
2014	**Winner**, Annual Coding competition at Nimbus, NITH's Annual Technical festival	*NIT Hamirpur, India*
2013	**Winner**, Annual Coding competition at Nimbus, NITH's Annual Technical festival	*NIT Hamirpur, India*
2010-11	**Head Boy**, Represented and led school student body	*D.A.V. Mandi, India*

Skills

Programming	C/C++, Javascript, Python, Bash, Java, Ruby, LaTeX, Haskell
Web	Django, Express, Rails, Flask, HTML5
Design	Adobe Photoshop, GIMP, Inkscape, Adobe Flash
Softwares/Libraries	Git, MongoDB, Redis, Neo4j, MySQL, PostgreSQL, Boost, GTK+, Cairo, Metasploit

Community contributions

Mozilla Developer

MOZILLA *Jan 2014*

- Exposing raw data on UDP sockets

Fedora Packager

THE FEDORA PROJECT *Oct 2014 - PRESENT*

- Maintainer of SFML, soundconverter, sshrc, proxychains-ng in Fedora repositories. Reviewer and tester of Fedora packages.

GNOME Developer

GNOME *Jan 2014 - Jan 2016*

- Automated UI testing. Several bugfixes in gnome-photos and gnome-documents.

Projects

Program Dependence Mesh: A data-driven interpretation of imperative programs

UNDERGRADUATE THESIS *Aug 2014 - May 2015*

- Invented a synthesizable representation, called Program Dependence Mesh (PDM), of programs written in imperative languages.
- Used LLVM to write a compiler pass to generate PDM from LLVM IR. The target of PDM is a unified platform that can be used as an ASIC, a CPU, or even a CGRA.

Sentimental Analysis in Hindi

COURSE PROJECT *Dec 2014*

- Gathered synsets in Hindi using the Hindi SentiWordNet and experimented with subjective lexicons, ngram, weighted ngram using NLTK.
- Trained an ensemble from several classifiers: Naive Bayes, SVM, Logistic Regression, and Random Forest.

Fingerprint authentication platform

CONSULTANT DEVELOPER *Aug 2013 - Oct 2013*

- Next generation secure login system using NBIS. Reverse-engineered Windows drivers for Futronics fingerprint scanner.

Extracurricular Activity

Google Summer of Code 2017

MENTOR *May 2017 - Aug 2017*

- Mentored a GSoC project on LibreOffice Online to successful completion.

GNU/Linux User Group (GLUG-NITH) *NIT Hamirpur*

SYSADMIN & CLUB LEAD *May 2012 - May 2015*

- Installed & maintained Ubuntu, Fedora, BOSS, GNU, kernel.org, LinuxMint, and LDP mirror servers. We were among the few mirrors in India.
- Developed & maintained pastebin, exam result software on student server.
- Installed and maintained club's mail server, web server, wiki, and local project hosting.
- Organized inaugural events: Software Freedom Day, Linux Installation fests, NITH Hackathon, Codechef Coding Competition, and educational meetups.

Computer Science & Engineering Community (CSEC) *NIT Hamirpur*

SYSADMIN & TECHNICAL CLUB LEAD *May 2013 - May 2015*

- Represented college in IIT Delhi and IIT Mumbai annual technical competitions.
- Organized NITH Hackathon; inaugurated ACM ICPC Chapter and CodeChef chapter.
- Conducted several coding competitions as part of CSEC annual technical festival.