

HIMANSHU GARG

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TECHNICAL SKILLS

Computer Languages	Python, JavaScript, TypeScript, Perl, C, SQL
Tools	Bash, Git

SUMMARY

I have programmed professionally for more than a decade in different languages including Typescript, Javascript, Python, Kotlin, Perl, XSLT, Bash and others. I am available for full/part time Individual Contributor roles. Also open to roles that require overlap with other timezones.

ACADEMIC RESEARCH

Technology Innovation Hub (TIH) on Cobotics

September 2020-Jan 2021

Sr. Project Scientist

New Delhi

- Research and development activity at the intersection of Computing/AI and Robotics
- Project in the area of robot intelligence. Work on Physics Simulation environment with a Robotic Agent to support AI model training. Setting up of software architecture and embedded computing setup to support experiments on a robotic platform.
- Supported work in Robot Teaching
- Supported research work submitted for peer review
- Project supported by the Technology Innovation Hub (TIH) on Cobotics (DST Project) at IIT Delhi.

Assistive Technologies Group, IIT-Delhi

November 2017-August 2020

Sr. Project Scientist

New Delhi

- Integrating pdf2htmlEX, Maxtract, and other tools using **Typescript**, **Node.js** for converting **PDF** to accessible **HTML**. We take the HTML output from pdf2htmlEx and analyze the HTML to create an accessible/reflowable HTML.
- Enhanced **InDesign scripts in JavaScript** to convert files containing non-Unicode Devanagari text to Unicode. The scripts used tables of strings/**regexes** to convert from source encoding to target and have been used to create accessible textbooks for the last 3 years by a major publisher.
- Supported workshops at NCERT to convert over 100 Devanagari textbooks in **InDesign** to Unicode <https://github.com/assistechn-iitdelhi/InDesignFontConverters>

CONSULTING

Environmental Design Solutions

August 2017 - October 2017

Development Consultant

New Delhi

- Converted the building code to an Android app allowing users to filter sections of the code based on building characteristics. Created the app from scratch, with interface design inputs from the client. The app used **Javascript to dynamically analyze the HTML and created custom styles for rendering and filtering HTML** content.
- <https://play.google.com/store/apps/details?id=com.edsglobal.ecbc>

Knimbus

May 2014 - May 2014

Development Consultant

Gurgaon

- Documented the architecture, profiled and identified performance bottlenecks in **Perl web scrapers**.

VOLUNTEERING

MathJax on Translate Wiki

May 2020 - May 2020

Volunteer Translator

Translated nearly 100% of MathJax strings on TranslateWiki

<https://translatewiki.net/wiki/Special:Contributions/Hgarg>

Translators Without Borders

April 2017 - June 2017

Volunteer Translator

- Translated 80k+ words of English course content for Palliative Care Health Professionals. The team received the Empowerment Award Honorable Mention

<https://translatorswithoutborders.org/winners-6th-annual-access-to-knowledge-awards/>

NON-PROFIT

- IRH, Georgetown University**

January 2008 - April 2010

Technology Manager

New Delhi

- Independently maintained and supported a **Django/MySQL/Redis/Celery** application for the “standard days” method of family planning from scratch to its closure. Users would enroll for the service by sending start dates to a designated number via SMS. The system would then ask screening questions via SMS and upon successful screening send periodic SMS reminders on unsafe days.
- Worked with partners including Thoughtworks, HCL, mGage, ISHP, and BoringBrands for integration, launch, support, and closure of 3 services including CycleTel Family Advice, CycleTel Humsafar for Nokia Phones and CycleTel Humsafar SMS service. Conducted field visits for focus-groups, training and technology support for field workers and call-counselors.
- Helped localize and test the CycleBeads app.
- <https://irh.org/cycletel/>

INDUSTRY

Adobe

February 2009-November 2013

Computer Scientist

Noida

- Independently maintained and supported **Python/XSLT tools used for software packaging, removal**. Created a **DSL** and its interpreter to generate test data to simulate products with complex dependency chains. Prototyped a **Solr** search system for **searching XML** files and displaying faceted results to filter Adobe products using specific installer features. Prototyped a **Python web server** to iterate over recent xml files and generate a Bootstrap styled report of Installation Directories and Conflicting Processes of all of Adobe’s products. Owned the back-end of a web-based geographical visualization of Adobe’s software activations, and the **back-end** of a web-based test automation system.
- Independently developed an Android app to create future calendar events using dates from incoming SMS by matching them against predefined **regexes**

Oracle

Aug 2006-Feb 2009

Application Engineer

Hyderabad

- Designed, developed, maintained and supported **SOAP** based command line wrappers for a modperl application used for hardware provisioning

SEEC
Software Engineer

May 2004-June 2005
Hyderabad

- Ported Unix **Lex-based lexical analyzers** to use Flex on Windows

TEACHING

The LNM Institute of IT
Lecturer

July 2005 - August 2006
Jaipur

- Lecturer for Algorithms & Data Structures, Computer Organization courses
- Wrote programs to **analyze source code** to detect similarity in submitted assignments and **Perl/SAMIE based scrapers** to automatically download entrance exam results by roll number to eliminate manual work

EDUCATION

International Institute of Information Technology, Hyderabad
M.S. by Research in Computer Science & Engineering

July 2006

International Institute of Information Technology, Hyderabad
B.Tech. in Computer Science & Engineering

June 2002

PUBLICATIONS

Rule based Mathematics and Layout Analysis of PDF Documents

Volker Sorge, M Balakrishnan, Neha Jadhav, Akashdeep Bansal, Himanshu Garg *DEIMS, 2021*

- <https://workshop.sciaccess.net/deims2021/program.html>

Towards generating web-accessible STEM documents from PDF

Volker Sorge, Himanshu Garg, Neha M. Jadhav, M. Balakrishnan *Web4All Conference, 2020*

- <https://dl.acm.org/doi/10.1145/3371300.3383351>

Making legacy digital content accessible at source

Sankalan Pal Chowdhury, Himanshu Garg, M. Balakrishnan *Web4All Conference, 2019*

- <https://dl.acm.org/doi/abs/10.1145/3315002.3332444>

Implementation of CycleTel Family Advice: an SMS-based service to provide family planning and fertility awareness information in India

Nicki Ashcroft, Victoria Shelus, Himanshu Garg, et. al. *mHealth Journal, 2017*

- <http://mhealth.amegroups.com/article/view/14966/15110>