

SCHOLASTIC ACHIEVEMENTS

- Pursuing **honors** in Computer Science and Engineering
- **All India Rank 53** in IIT-JEE 2011 among 4.5 lakh candidates
- **All India Rank 51** in AIEEE 2011 among over 10 lakh candidates
- **All India Rank 7** in VITEEE 2011 (for admissions to **Vellore Institute of Technology**)
- **All India Rank 130** in the 2011 entrance exam for the **Indian Institute of Space Technology**
- Qualified for the **Indian National Physics Olympiad, 2010**
- Qualified for the **Indian National Mathematics Olympiad, 2011** (secured **rank 64** in the RMO)
- **All India Rank 1** in the 7th **National Cyber Olympiad (2005)** conducted by Science Olympiad Foundation

INTERNSHIP PROJECTS

- **Software Development Intern at Samsung Electronics, Korea** *Summer 2014*
 - **Open source contributions**
 - Understood the **Chromium graphics stack** and patched Chromium's C++ 2D drawing library **Skia**
 - **Dodgebomb - Game development**
 - Developed a **WebGL** browser game using **three.js** that uses the W3C-standardized **Gamepad API**
 - Game runs as a webapp on **SBrowser** and **Chrome**. Controls are via the **Samsung Wireless Gamepad**. Will port to Tizen App Store (*ongoing*)
- **Software Development Intern at Chronus Software, India** *Summer 2013*
 - **SSH Key Management**
 - Developed a CLI app in **Ruby** for privileged users (admins, ops team) to efficiently provision, rotate and revoke SSH key permissions for **AWS EC2** instances, using **AWS S3** as the keystore
 - **RTalk** [github.com/wenderen/rtalk]
 - Anonymized chat app in **Rails** with emoticons, clickable links and an option to export chat history as a text file
 - Users create chat rooms and invite friends by sharing a randomized room URL
 - Room and chat logs are destroyed when everyone leaves

OTHER PROGRAMMING PROJECTS

- **Scrobber** [github.com/wenderen/scrobber] (*ongoing*) *August 2014*
 - Building a CLI/GUI app to send track metadata to **Last.fm**, a social-network/artist-database for music listeners
- **Time Glider** [Hackathon] [github.com/wenderen/timeline-builder] *August 2013*
 - Website that displays an interactive timeline of news articles related to a user's search term
 - Performed natural language processing in **Python NLTK** to summarize news articles. News article scraping and search indexing done in **Python** and **Apache Solr**. Frontend and interfacing done in **Sinatra**
 - Winner of the **second prize** at the **Yahoo! HackU 2013 IIT Bombay** event
- **Train Tracker** [Hackathon] *July 2013*
 - Built a website that accepts a PNR number and returns **real-time** data about the upcoming train station (distance, time left, weather forecast, emergency numbers) to train travellers
 - Winner of the **Best Technical Hack** award at the **Yahoo! Hack India 2013 Hyderabad** event
 - Code written in **Ruby** using **Sinatra** as the framework.

RESEARCH EXPERIENCE

- **Simulating Burning - Undergraduate Dissertation** (*ongoing*) *Prof P Chaudhuri, Autumn 2014*
 - Physically modeling fire and incorporating burning, melting and residue formation for generic solid meshes
- **Bounding error-correcting codes** (*ongoing*) *Prof A Kulkarni, Autumn 2014*
 - Deriving information-theoretic bounds on the cardinality of error-correcting codes for strings sent over permuting channels (tentative, topic may change)

TEACHING EXPERIENCE

- **Web and Coding Club, IIT Bombay** January 2013, January 2014
 - Conducted two very well-received and popular **Python programming workshops** for beginners
- **Teaching Assistant, Computer Graphics course** (ongoing) Autumn 2014
 - Developing teaching material for the course
 - Guiding students and helping them resolve their difficulties with the course

COURSE PROJECTS

- **Rendering with PRman** [[wenderen.github.io/renderman/](https://github.com/wenderen.github.io/renderman/)] Profs P Chaudhuri & S Chandran, Spring 2014
 - Wrote shaders and rendered raytraced scenes using Pixar's rendering software **Photorealistic RenderMan**
- **Musicbox Animation** [github.com/wenderen/musicbox] Prof P Chaudhuri, Autumn 2013
 - Modeled, textured, posed and animated a dancer in a musicbox. Built from scratch with OpenGL
- **MS Paint clone** [github.com/wenderen/mydraw] Prof P Chaudhuri, Autumn 2013
 - Basic MS Paint clone made with OpenGL with support for floodfill tool and checkered patterns
- **Elliptic Curve Cryptography Primitives** [github.com/wenderen/ecc-asm] Prof B Menezes, Autumn 2013
 - Implemented primitives for elliptic curve cryptography in MIPS Assembly
- **Service Bazaar** [github.com/wenderen/service-bazaar] Prof U Bellur, Autumn 2013
 - Built an Amazon/eBay/craigslist clone tailored towards services. Written using Rails
- **Fast Fourier Transform on FPGA** Prof A Gumasthe, Spring 2013
 - Implemented eight-point radix-2 Decimation in Frequency FFT on Atlys Spartan 6 FPGA using VHDL.
- **Rube Goldberg Machine Simulator** Prof P Chaudhuri, Spring 2013
 - Simulated a Rube Goldberg Machine in C++ using Box2D physics engine and OpenGL for rendering
- **FMoT: File Manager on Terminal** Prof V Apte, Fall 2012
 - Wrote a terminal-based file manager in C++ for Unix Systems supporting standard file management tasks
- **Chinese Checkers** [github.com/wenderen/chinese-checkers] Prof A Sanyal, Spring 2012
 - Implemented heuristic game AIs for Chinese Checkers (Minimax and Alpha-beta pruning) with a GUI using Racket

PROGRAMMING AND TECHNICAL SKILLS

- **Knowledgeable about** C, C++, OpenGL, JavaScript, WebGL, Ruby, Rails, Python
- **Basic familiarity with** SQL, Prolog, Assembly, Photorealistic Renderman, Amazon AWS (S3, IAM)

AREAS OF INTEREST

- **CS:** Graphics, Web Development, Functional Programming, Parallel Computing
- **Others:** Information Theory, Game Development

KEY COURSES UNDERTAKEN

CS: Digital Image Processing², Parallelizing Compilers², Parallel Computation², Advanced Computer Graphics, Computer Graphics, Operating Systems¹, Compilers¹, Artificial Intelligence¹, Networks¹, Databases¹, Computer Architecture¹, Theory of Computation, Logic Design¹, Design of Algorithms, Program Derivation, Software Systems, Data Structures¹, Discrete Structures, Abstractions and Paradigms¹

Others: Linear and Nonlinear Systems, Signals and Feedback Systems, Mathematical Structures for SysCon, Data Analysis & Interpretation ¹With associated lab course ²Ongoing

EXTRA-CURRICULAR ACTIVITIES

- Passionate about foreign languages
 - Competent in **French** (studied as a second language for 7 years at the school level)
 - Completed one year courses in **German** (certified by DAAD) and **Chinese** (certified by Beijing Jiaotong University)
- Built a self-controlled **wall-following robot** in a team of 3 for the WALL-E competition in **Techfest 2012**, which was selected among the top-32 teams, as well as a remote-controlled **racing robot** in a team of 3 for **Trackmania 2012**, which navigated an obstacle course
- Completed one year of **National Service Scheme** (2011-2012). Performed **shramdaan** in rural areas of Maharashtra, visited NGOs and assisted in the building of a **tubewell**
- **Debating:** participated in and reached the finals of Sardar Patel Institute of Technology, Mumbai's debate competition in SPACE (annual cultural festival) 2012