

## Piyush Soni

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### PROFILE

Software Engineer with 8 years of research and professional experience, with a specialization in 3D Graphics

### EDUCATION

- M.S. in Computer Science, Georgia Tech., Atlanta, Georgia, USA. CGPA: **3.83/4** (Dec '08)
- B.Tech., Mechanical Engineering, Indian School of Mines(ISM) Dhanbad, India. CGPA: **4.17/5.0** (May '05)

### SKILLS

- **Languages:** C, C++ (Standard, VC++), Java, C#, ASP.net, VB.net, FORTRAN, Processing, JavaScript, VBScript, Groovy, hacked some perl scripts.
- **Databases:** SQL Server 2000/2005, MS Access
- **Others:** OpenGL, HOOPS(Graphics library), AutoCAD, SolidWorks, XML, XSLT, JSON, MATLAB, SVN
- **Platforms:** Windows(all versions), Linux(RHEL, Ubuntu), Android

### RESEARCH (<http://piyushsoni.com/research.html>)

- **Virtual Surgery:** A 3D experimental tool enabling surgeons to simulate heart surgery by cutting, bending and stitching arteries in real time.
- **VoxGrabber:** A tool for 3D volumetric Data Extraction, compression, transmission and rendering over a network.
- **'Constant Length Polyloop Smoothing'** and **'Thread Simulation'** under Prof. Jarek Rossignac, Georgia Tech.

### PROFESSIONAL EXPERIENCE

- **Software Engineer, SolidWorks Corp., Madison, WI, USA** (Jan '09 – present)
  - (Current) Working on developing next generation of SolidWorks core (CAD) software from scratch – includes working on internally developed graphics library based on OpenGL.
  - Worked on universal CAD format file viewer, SolidWorks eDrawings – using an OpenGL based library – 'HOOPS'.
  - Voluntarily developed tens of internal tools and applications for SolidWorks – VS Addons, Firefox Add-ons & more.
- **Software Development Intern, SolidWorks Corp.** (May '08 – Jul '08)
  - Worked on SolidWorks' **eDrawings**, a universal CAD format viewing product for its 2009 release.
- **Assistant Systems Engineer, Tata Consultancy Services Ltd., India** (Sept '05 – Aug '07)
  - Developed Desktop and Web applications for the projects mentioned. Led a team of 5 engineers.
  - **Content Management System:** A POC application developed for **NASDAQ**, in C#, ASP.net and Web Services.
  - **Dock and Yard Management System:** An application developed for **CH Robinson**, Eden Prairie, MN from scratch including Architecture Design, Database design and programming in VB.net
  - **Investment Proposal:** A large Web Application for **Merrill Lynch**, Hopewell NJ in C++, C#, Web Services.

### OTHER PROJECTS (<http://piyushsoni.com/projects.html>, <https://github.com/piyushsoni>)

#### Academic

- **3D Booleans:** A robust implementation for carrying out 3D boolean operations like union, intersection, difference in complex triangle meshes (Spring 2008)
- **'Elements' Game:** A Multiplayer 3D ball racing game written in C++ using the C4 Game Engine involving Artificial intelligence and correct physics implementation. (Spring 2008)
- **'True Media' Search Engine:** A voice controlled system written in Java, for speech content based searching and indexing of videos, utilizing a speech to text library, as the Enterprise Computing project. (Spring 2008)
- **3D Mobile Simulation:** Project in computer graphics involving animation with triangle meshes, 3D Morphing and multi directional shadows in 'Processing'.(A Java based programming language) (Fall 2007)
- **Cure Monitoring System:** A computer controlled system for automatically monitoring curing of rubber tires with embedded piezo-electric sensor layers, written in C++. (Under Graduate)

#### Personal

- **Better Loopy for YouTube:** An open source, fun project, seamless plugin for YouTube allowing it to auto repeat. Now installed around 4,60,000 times. (<https://github.com/piyushsoni/BetterLoopyForYouTube>)
- **Yahoo Mail Hide Ad Panel:** A Firefox add-on to hide Yahoo mail ads which is now one of the top-10 rated extensions on the Mozilla Add-on Store.
- **PiToodle:** An Android application to easily manage your tasks and tasks lists on the go (already on the market).
- **Free Rice Auto Feed:** A GreaseMonkey script to automatically feed rice to hungry, until UN-WFP emailed me to stop it. (<http://userscripts-mirror.org/scripts/show/89869>)
- **Robotic Arm:** A fully functional 4 degrees of freedom robotic arm, controlled by C++ in ISM Dhanbad.
- **LAN Chess:** A project to play Chess on a Local Area Network in real time, in C++, Senior Secondary school.
- **MS PaintBrush Look Alike:** A project functioning exactly like Microsoft Paintbrush, made in Borland C++.

### ACHIEVEMENTS

- **IIT-JEE** Qualifier, All India Rank 2826 out of 1,26,000 Competitors (Top 2.2%)
- **Joint Secretary**, NCSED, the software education and development society of ISM (2004)
- **First prize**, C++ Debugging contest in the National Tech Fest held in ISM (2003)