

# Ravi Shankar

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## Education

<b>10th grade</b> 440/500 (91%)	<b>2009 – 2010</b> <i>Ponjesly Public Matriculation School</i>
<b>12th grade</b> 1131/1200 (94.25%)	<b>2011 – 2012</b> <i>DVD Higher Secondary School</i>
<b>Bachelors Degree - Aeronautics</b> CGPA: 6.23	<b>2012 – Present</b> <i>Madras Institute of Technology</i>

## Projects

<b>Aircraft Design Project</b> <i>Prof. Jayaraman</i>	<b>December, 2014 – 2015</b> <i>Madras Institute of Technology</i>
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- Studied and calculated the various parameters required for designing a 420-seater "jumbo jet" aircraft.
- [Wrote a number of Python scripts](#) for automating the data collection and plotting, which reduced a great deal of time for the fellow undergrads.

<b>Backend Developer Intern</b> <i>Giriraj Namachivayam (Lead Developer)</i>	<b>January, 2016 – Present</b> <i>Genome Life Sciences</i>
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- Wrote utilities to parse and analyze large quantities of chromosome data.
- Introduced the Rust language to the team, and rewrote a number of Bash and Python scripts in Rust, which showed a drastic improvement in performance.
- Currently writing a parser in Rust to process data, which is expected to bring down the processing time from seconds to a few milliseconds.

<b>Improving the fracture toughness of tapered composites</b> <i>Prof. Arumugam</i>	<b>January, 2016 – April, 2016</b> <i>Madras Institute of Technology</i>
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- Conducted various tensile tests and acoustic experiments on tapered composites and studied about the discontinuous stress distributions in each lamina.
- Currently trying to improve the fracture toughness by the addition of filler material in an iterative process.

## Open source contributions

Mozilla.....

- [Contributor](#) and [reviewer](#) for the [Servo browser engine](#) project over the last few months, primarily concentrating on the python code used by the build system and mentoring the newcomers.
- Occasional contributor to the [Rust programming language](#), its documentation and related tooling.
- [Mozillian](#) since the summer of 2015.

Personal projects.....

- [Biographer](#): A command-line based private diary written in Python, which allows users to write their everyday stories, view them, or search through them later. It makes use of a simple shifting cipher to encrypt/decrypt the contents. It also contains a Rust library, which uses FFI and concurrency to reduce the searching time by a factor of  $\approx 100$ .
- [Free fall](#): A terminal based ASCII 2D game written in Rust, where the users try to save a jumper from hitting the cliffs. The game makes use of the terminal's raw mode and interacts with the Unix C libraries for polling the keystroke inputs and prints thousands of characters frame by frame to indicate motion.

- **Flight '16**: A [responsive website](#) written in pure HTML/JS/CSS (for our dept. symposium) without the use of any external libraries. Since most of the audience were 2G users, it's optimized in such a way that the desktop version consumes atmost 5 MB, and the mobile version consumes barely 1.5 MB, which brings the loading time to a few hundred milliseconds.
- **Carrot**: An MVC-based webapp which lets organizations to notify their users of the changes made to their webapp(s) by using a simple `<script>` tag embedded on their webpage, which gets data from our server through the JSONP technique.

## Programming skills

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**Languages**: Python, Rust, HTML5, Javascript, CSS, Bash, and some  $\text{\LaTeX}$

**Technologies**: Git, Mathematica, some Django and Angular JS

## Key Courses Undertaken

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**Aeronautics**: Aircraft Structures, Aerodynamics, Propulsion, Flight Mechanics, Aircraft Stability

**Mathematics**: Numerical Methods, Transform Techniques & PDE, Finite Element Method

## Public speaking

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- Conducted introductory hands-on sessions for Python in college
- Volunteer at "Mozboot" sessions (conducted by Mozilla) in college

## Miscellaneous

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- Blogger for the past two years on [wafflescrazypeanut.wordpress.com](http://wafflescrazypeanut.wordpress.com) and [wafflespeanut.github.io](http://wafflespeanut.github.io)
- I also play the Indian flute, and sometimes juggle