

# Arjun Jayaprakash

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I am a PhD candidate in Civil Engineering at NC State University specializing in the area of Structural Engineering. My goal is to enter academia and make contributions through teaching and conducting critical research. My areas of interest are seismic analysis and design, reinforced concrete and steel bridge systems, and probabilistic analysis of seismic hazards and structural systems.

## Experience

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### Research Experience.....

- **PhD Research Assistant** **Raleigh, NC**  
*NC State University* *June 2016 - Present*

I am currently working on the project titled "Durability of the Grouted Shear Stud (GSS) connection in Cold Climate" sponsored by Alaska Department of Transportation. The GSS is a novel steel bridge column to cap-beam connection developed at NC State University for use in seismic regions. My goal is to assess its cold climate durability and consequences of its durability damage on the lateral load resisting system.

- **Master's Student** **Raleigh, NC**  
*NC State University* *August 2014 - May 2016*

I completed multiple projects as part of coursework and independent study. The independent study was titled "Towards an Opposite Peak Response Spectra for Seismic Design". The study tried to pilot an effort to investigate the assumption of a balanced response under seismic loading. Other projects completed over this period include:

- Matrix Implementation of Offset Connections
- FRP strengthening - A typical problem
- Numerical Instability using Multi-Point Constraints
- Sensitivity of Damping Model to Nonlinear Time History Analysis
- Impact of Balance Ratio on State-of-the-art Bar Buckling model

### Teaching Experience.....

- **Co-Instructor** **Raleigh, NC**  
*NC State University* *August 2018 - December 2018*

I taught 5 lectures for the fall semester offering of Statics course for Civil Engineering undergraduate students.

- **Instructor** **Sherman, TX**  
*Duke TIP* *May 2015 - July 2015*

I taught a course named *Design Challenges: Physics and Engineering* to gifted middle school students participating in an academic summer program organized by Duke TIP.

### Work Experience.....

- **Structural Design Engineer** **Mumbai, India**  
*Satish Jain and Co.* *September 2012 - August 2013*

I handled the structural design of 7 to 14 floor residential buildings which included computer modeling, drawing generation and site visits before construction.

- **Graduate Engineer (Planning)** **Chennai, India**  
*Shapoorji Pallonji Co Ltd.* *August 2011 - September 2012*  
 I was the assistant engineer for planning at a residential construction project with the contractor firm. I carried out productivity analysis and made weekly presentations to the site managers.

## Technical Papers

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Under Review.....

- Mean Balance Ratio to Characterize Ground Motion Loading History for Performance Based Design, *12th Canadian Conference on Earthquake Engineering*
- Structural Consequences of Grout Deterioration in the Grouted Shear Stud Connection, *Bridge Engineering Institute Conference*

## Education

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Academic Qualifications.....

- **NC State University** **Raleigh, NC**  
*PhD Student, PhD GPA: 4.0* *2016–Present*
- **NC State University** **Raleigh, NC**  
*Master's Student, Graduated with 3.9 GPA* *2014–2016*
- **National Institute of Technology Calicut** **Calicut, India**  
*Undergraduate Student, Graduated with GPA 7.4/10* *2007–2011*

## Technical and Personal skills

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- **Programming Languages:** Proficient in: Matlab and R  
 Also basic ability with: Tex, Tcl.
- **Industry Software Skills:** Matlab and (Advanced), R (Advanced), RUAUMOKO (Intermediate), SAP2000 (Intermediate), SEISMOSTRUCT, SEISMOSIGNAL and SEISMOMATCH (Intermediate), OpenSEES (Beginner), Most MS Office products (Advanced).
- **Other Skills:** Good presentation skills, Write well organized and structured reports.

## Interests and extra-curricular activity

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- I like reading both fiction and non-fiction.
- I have written scripts for short films and have directed one that premiered at Witherspoon Student Center Cinema at NC State University as part of top 16 short film submissions for the Campus Movie Fest 2015.
- I was the captain for the college dance team at National Institute of Technology Calicut. The team won first prize at the 2011 NITC RAGAM and second prize at 2008 NITT FESTEMBER regional dance competitions.