Naga Sundeep Palvadi

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EDUCATION

UNIVERSITY OF TEXAS
PhD in Engineering Mechanics
Expected Dec 2016 | Austin, Tx
Specialization:Solid and Fracture Mechanics
Cum. GPA: 3.8

M.S in Civil Engineering
Aug 2011 | Austin, Tx
Cum. GPA: 3.92 / 4.0

NATIONAL INSTITUTE OF TECHNOLOGY
B.Tech in Civil Engineering
July 2009 | Warangal,India
Cum. GPA: 3.7

PROGRAMMING SKILLS

Over 5000 lines:
FORTRAN• Matlab •MATHEMATICA
ABAQUS • Python • LATEX
Over 1000 lines:
C • C++ •R
Familiar:
LabView • Linux • OpenMP •MPI
Apache Spark•PERL•Auto CAD
ANSYS•git•MS Office

KNOWLEDGE AREAS

Finite Element Analysis
High Performance Parallel Computing
Fracture Mechanics
Continuum Mechanics
Mechanics of Active Materials
Theory of Viscoelasticity
Solid Mechanics
Inverse Problems
Experimental Mechanics
Convex Optimization

EXTRA ACTIVITES

Kaggle Competitions:
Facial Keypoints Detection•Titanic: Machine Learning from Disaster
Current Projects:
Developing Neural Networks Based Visual Recognition Algorithms

LINKS

Google Scholar:// **Sundeep Palvadi**
LinkedIn:// **Sundeep Palvadi**

INDUSTRY EXPERIENCE

PSYLOTECH | Finite Element Analysis Consultant
Jan 2013 – Dec 2013 | Austin, Tx
- Co-developed a user material **FORTRAN code (UMAT)** to implement non-linear viscoelastic material in **ABAQUS**
- Built **CAD ARCAN** models to validate the material consitutive model
- Developed user cohesive element **FORTRAN code (UEL)** to model delamination

RESEARCH EXPERIENCE

UNIVERSITY OF TEXAS AUSTIN | Research Assistant (Doctorate)
Jan 2012 – Present | Austin, Tx
1. **Optimization-based Inverse Techniques to Measure Cohesive Zone Parameters of Interfaces in Viscoelastic and Elastic Media**
   - Developed a boundary element method based optimization framework to experiementally measure **rate-dependent traction separation relationships**
   - Automated the numerical framework by creating an interior point method-based parallel optimization code in **MATLAB/FORTRAN**
   - Characterized **PDMS-Polystyrene interfacial** properties using the proposed scheme and a custom built loading device
2. **Extraction of mixed mode cohesive zone parameters using material conservation laws**
   - Developed a Tikhonov regularization-type iterative tool to measure **cohesive zone parameters** from displacement data of a blister test
   - **Built a test rig** to perform wedge delamination test and to analyze rate dependent interfaces from interferometry data

UNIVERSITY OF TEXAS AUSTIN | Research Assistant (Master's)
Aug 2009 – Aug 2011 | Austin, Tx
1. **A Framework to Quantify Healing in Elastic-Viscoelastic Composites Using Continuum Damage Approach**
   - Developed a framework to quantify **crack healing** in asphalt concrete using linear viscoelastic continuum damage theory
2. **Influence of Polymer Aging and Temperature on Rate of Crack Healing in Viscoelastic Polymer Medium**
   - Investigated the impact of test temperature and polymer aging on rate of healing using **dynamic shear tests** on polymer samples

EXPERIMENTAL SKILLS

- Proficient in using several experimental systems: double cantilever beam & blister **delamination tests**, three point & four point bend test
- Characterizing the mechanical behavior of materials using **universal testing machines** and **dynamic mechanical analyzers**
- Automating analysis of **digital image correlation/interferometry** optical data using custom MATLAB and Python codes

HONORS

- Finalist in the **international student paper competition** at the SEM 2016
- Two time recipient of **student travel awards** SES (Jun' 14, May '15)
- Recipient of **3 gold medals** for academic and extra-academic excellence
- Recipient of the **University Scholarship** for 3 years