

RUPANSHU SOI

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EDUCATION

Birla Institute of Technology and Science, Pilani <i>Bachelor of Engineering in Computer Science</i>	2018 - 2022 CGPA: 8.96
Banyan International School, Jammu <i>Class XII, Central Board of Secondary Education</i>	2016 - 2017 92.6 %
Heritage School Jammu <i>Class X, Central Board of Secondary Education</i>	2014 - 2015 CGPA: 10

PROGRAMMING SKILLS

Languages	C, Python, Lua, Go, Scheme, Regent
Systems	Flex, Bison, Linux, React, CUDA, MySQL, L ^A T _E X

RESEARCH INTERESTS

- Programming Languages
- High Performance Computing

RESEARCH EXPERIENCE

Development of an Implicitly Parallel Meshfree Solver in Regent	<i>Spring 2020</i>
<ul style="list-style-type: none">• Implemented a high-performance CFD solver in the Regent programming language. [Code]• Performed rigorous performance comparisons with corresponding in-house implementations in Fortran and Julia.• Supervised by Dr. Anil Nemili.	

REFEREED WORKSHOP ARTICLES

R. Soi, N. R. Mamidi, E. Slaughter, K. Prasun, A. Nemili and S. M. Deshpande
An Implicitly Parallel Meshfree Solver in Regent [\[Abstract\]](#)[\[Paper\]](#)[\[Slides\]](#)
2020 IEEE/ACM 3rd Parallel Applications Workshop: Alternatives to MPI+X (PAW-ATM), USA
Held in conjunction with SC20

OPEN-SOURCE CONTRIBUTIONS

Regent (a task-based language for distributed HPC)	<i>Mar 2020 - Present</i>
<ul style="list-style-type: none">• Contributed code and reported bugs in the Regent compiler. [Pull Requests][Bug Reports]	

SELECTED PROJECTS

Runi: Hand-written lexer and parser for C in Go	<i>Spring 2021</i>
<ul style="list-style-type: none">• Implemented a lexer and recursive descent parser for a subset of C in Go from scratch. [Code]	
Misty: A Scheme Interpreter in Lua	<i>Spring 2021</i>
<ul style="list-style-type: none">• Implemented an interpreter for a subset of Scheme. [Code]	
Brendr: Efficient Borrowing-Lending for Close-Knit Communities	<i>Spring 2021</i>
<ul style="list-style-type: none">• Wrote the front-end using React and JS for a MERN stack web-app. [Code]	

TEACHING ASSISTANTSHIPS

- **Operating Systems** *Spring 2021*
- **Differential Equations (Math III)** *Fall 2020*
- **Mechanics, Oscillations and Waves (Phy I)** *Spring 2019, Fall 2019*

SCHOLASTIC ACHIEVEMENTS

- 10/10 Semester GPA** *Fall 2018*
 - Top 5 in 1100 students.
- BITS Pilani Merit Scholarship** *Spring, Fall 2019*
 - Top 1-3% of the batch.
- Sir CV Raman Prize** *Jan 2019*
 - Awarded once per semester for outstanding performance in physics.
- Joint Entrance Examination (Advanced)** *May 2018*
 - Ranked top 0.6 % in India.

LEADERSHIP & MANAGEMENT EXPERIENCE

- Joint Secretary, Ad Astra (Astronomy and Science Club)** *Aug 2019 - July 2020*
 - Managed and organized club activities including discussions, talks, quizzes and star-gazing sessions.
 - Responsible for club events during our annual technical fest, ATMOS.

REFERENCES

- Dr. Elliott Slaughter, Computer Science Research Department, SLAC National Accelerator Laboratory, USA
- Dr. Anil Nemili, Department of Mathematics, BITS Pilani - Hyderabad Campus, India