Divas Subedi

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Education

B.S. in Computer Engineering and Physics

Expected May 2022

Trinity College — *Hartford, CT, USA*

- Cumulative GPA: 4.1 / 4.0

Honors

- Thomas Holland Scholar
- The Albert J. Howard Jr. Prize
- Engineering Junior Book Prize
- Theodore R. Blakeslee II Award
- Phi Gamma Delta Prize in Mathematics
- President's Fellow for Physics
- Sigma Pi Sigma Honor Society
- Faculty Honors

Relevant Courseworks

- Intro to Computer Systems
- Data Structure & Algorithm
- Abstract Algebra
- Applied Linear Algebra
- Partial Differential Equations
- Digital Signal Processing
- Microprocessor Systems
- Microelectronics

Experience & Training

Intern

May 2021 - Aug 2021

Fermi National Laboratory / DUNE at LBNF — *Batavia, IL, USA*

- Designed and coded firmware for ground impedance monitor for isolation of ground for DUNE-LBNF far side detector.
- Implemented signal processing models in FPGA for impedance monitoring.
- Created and managed code-base for circuit element parameter optimization using LTSPICE and Python.

Trainee

May 2021 - Aug 2021

University of Waterloo: Institute of Quantum Computing — *Waterloo, ON, Canada*

- Participated in USEQIP to study quantum algorithms and multiple aspects of experimental quantum computing.
- Created and collaborated in quantum algorithm coding projects.

Skills

Programming Python (SciPy, TensorFlow, Qiskit, Pandas), MATLAB, C, C++, R, Mathematica, C#, Java
Technologies Jupyter, SPICE, COMSOL, Git, ROS, LaTeX, RStudio, Unity3D
MOOCs Data Science Professional Certificate (HarvardX), Data Structures and Performance (UC Santa Clara)
Languages Nepalese, Hindi

Projects

FermiLT Designed and maintained circuit element optimizer for Fermilab. Python (SciPy)/SPICE
QHO Simulator Designed a simulator to estimate time evolution of a given quantum wave function. MATLAB
Quantum full adder Designed quantum analogue of full bit adder. Python (Qiskit)
Autonomous Vehicle Designed and established wireless communication to interface with autonomous vehicle. Arduino/Tegra
Cubetastic Built 3D collision-based obstacle avoidance game for Android and Windows. Unity/C#
Text Editor Implemented Search Tree to build a text editor with text prediction. Java
Project Map Built global air traffic map by implementing various data structures. Java

Leadership & Activities

President Trinity College IEEE Student Chapter — *Jan 2020 - May 2021*
Treasurer Trinity College SPS Chapter — *Sep 2019 - Present*
Member Trinity College Habitat for Humanity — *Sep 2020 - Present*

Selected Publications

Conference Publications

[C3] **D. Subedi**, E. Schoemer, D. Chitrakar, Y. Su and K. Huang, "Contact Location via Active Oscillatory Actuation", *2022 IEEE/SICE International Symposium on System Integration (SII)*, Narvik, Norway, 2022.

[C2] K. Huang, D. Chitrakar, R.Mitra, **D.Subedi**, and Y. Su, "Characterizing Limits of Vision-Based Force Feedback in Simulated Surgical Tool-Tissue Interaction", *2020 Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Montreal, Canada, 2020.

[C1] **D. Subedi** and D. A. Fixel, "MOSFET Channel Engineering and Scaling Study using COMSOL Multiphysics Simulation Software", *COMSOL Multiphysics Conference 2019*, Boston, MA, 2019.

Journal Publication

[J1] K. Huang, **D. Subedi**, R. Mitra, I. Yung, K. Boyd, E. Aldrich, and D. Chitrakar, "Telelocomotion—Remotely Operated Legged Robots", *Applied Sciences 2021*, vol. 11, no. 1:194.

Technical Reports

[T1] **D. Subedi**, M.J. Utes, P.M. Rubinov, "GIZMo for DUNE at LBNF", *Fermilab Summer Internships in Science & Technology (SIST)*, Batavia, IL, 2021.