RAHUL THAPA

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EDUCATION

Bachelor of Science in Computer Science, Villanova University, Villanova, PA **May 2021**

- Minor in Physics and Mathematics, GPA: 4.00/4.00, Dean's List since Freshman, Honors Ambassador

Higher Secondary Education, SOS Hermann Gmeiner School Bharatpur, Nepal **May 2015**

- Science and Mathematics; GPA: 4.00 Unweighted

TECHNICAL SKILLS

- **Programming Languages**: (proficient) - Python and Java; (intermediate) - JavaScript, Oracle SQL, NodeJS, C; (beginner) - Matlab, CSS, HTML
- **Technologies**: (proficient) - Git, GitHub, Tensorflow, Matplotlib, Numpy; (beginner) - React-Redux, Mongodb

EXPERIENCE

Research Intern (REU), University of California Irvine, Irvine, CA **Jun 2019 - Aug 2019**

- Created correlation matrix and scatter plots from multimodal timeseries data from Unmanned Aerial Vehicle (UAV) and merged the data based on average value using Python.
- Designed mutual information based algorithm using mRMR and sckit-learn to select 10 best features from over 100 features.
- Modeled a Recurrent Neural Network (RNN) with Long Short-Term Memory (LSTM) layer to predict high capture-to-control delay using sequence-to-sequence based approach.
- Obtained 80% precision and 73% recall on a highly skewed and limited training set.

Freshman Match/Summer Research Assistant, Villanova University, Villanova, PA **Jan 2018 - Aug 2018**

- Created histogram of relative orientation between the magnetic field and the intensity gradient and visualized their alignment in Orion Nebula using Python packages such as Matplotlib and Seaborn.
- Modeled a Red Blue Green image of Orion Nebula and plotted 4 band vectors over the intensity map using Python package APLpy.

PERSONAL/CLASS PROJECTS

VuShares (Ongoing Startup): Developing web application for students to buy and sell unused dormitory items and also exchange services directly. Venture funded by Villanova ICE Innovation Fund.

- Designed a prototype using React.js for frontend and Node.js for backend and HTML/CSS/Bootstrap.
- Currently working on testing the prototype through surveys, user-stories, and cost-benegit analysis.

E-Waste Management: Designed a database that allows users to buy and sell their old and unused electronic devices.

- Designed mind maps, ER model, and Relational model using Lucidchart.
- Modeled mechanism for performing CRUD operation on the database using Oracle SQL.

AWARDS & LEADERSHIPS

- **ICE Innovation Fund, 2019**: Awarded with Villanova ICE center Innovation fund worth $250 for funding the build phase of my startup called VuShares.
- **Creative Idea Award, Blockchain Hackathon 2019, R3**: Formulated and presented idea to alleviate poverty in the U.S by tokenizing and distributing unused meal swipes from students in colleges to homeless shelters using Corda.
- **1st Runner up, Hackathon 2018, Lockheed Martin** : Led a team of 6 peers to make electronic piano using Arduino.
- **Resident Assistant (RA)**: Oversee 50 residents, organize community building events, and promote safety.