

Surya Ambardar

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Driven machine learning and biology student aspiring to turn healthcare problems into coding solutions.

EDUCATION

University of Virginia | Bachelors | Majors in **Computer Science & Biology**, Minor in **Technology Entrepreneurship**
3.9 GPA and [Echols Scholar](#), an academic honor granted to 5% of UVA's incoming class. Graduating in **May 2022**.

Relevant Coursework: Machine Learning, Vision and Language, Statistical Analysis, Algorithms, Embedded Computing and Robotics, Advanced Software Development, Artificial Intelligence, Computer Architecture, Databases, Program and Data Representation, Biostatistics, Genetics, Cell Biology, Regenerative and Developmental Biology

EXPERIENCE

AI Researcher | [Space ML](#), Mentors: [Siddha Ganju](#), [Anirudh Koul](#) **May 2020 - Present**

- Built, fine-tuned, and integrated a key part of the NASA-Funded [Cameras for Allsky Meteor Surveillance](#) (CAMS) project, a LSTM model which classifies night sky light sources as meteors or airplanes, satellites, etc. I developed a unique data augmentation technique which **increased precision and recall scores to 95%** from the original 60%. CAMS aims to identify, calculate trajectories, and predict parent bodies of meteors and comets.
- Continuing research on geospatial machine learning models today, as well as pursuing publication for previous work, alongside astronomers and developers from the [Frontier Development Lab](#), an **AI accelerator for NASA**.

AI Researcher | Remote, Mentors: [Anirudh Koul](#), [Siddha Ganju](#) **May 2020 - July 2020**

- Collected a pedestrian video dataset with time-series accelerometer annotation to train an egocentric pedestrian trajectory prediction model with a CNN-LSTM model architecture. This model aims to assist blind pedestrians as they travel to new destinations, and its preliminary results were [presented at CVPR 2020](#) (18:02).

ML Developer | ML4VA, Charlottesville VA **Mar 2020 - Jun 2020**

- Developed a CNN-based [automatic recyclables sorter](#) for the Machine Learning 4 Virginia (ML4VA) competition which reached 90% accuracy and could help Virginia reach its environmental goals.

Team Leader | MIT GrandHack, DC **August 2019**

- Developed a continuous remote asthma monitoring device which could eliminate up to 60% of preventable ER visits for asthma patients by detecting anomalous airflow patterns.
- **Won runner-up** in Access to Healthcare, leveraging domain knowledge from pulmonologists on my team.

Researcher | Radify Labs, Charlottesville VA **May 2019 - Jun 2019**

- Built a pipeline for heart disease patient data with Numpy and Pandas, using Tableau to visualize trends in patient data. Constructed random forest diagnosis models using Tensorflow and Keras, reaching 85% diagnosis accuracy.

AWARDS & MEMBERSHIPS

- Winner of 2020 Deloitte Case Competition
- Runner-up of 2019 MIT GrandHack DC
- Finalist in 2019 TEDxUVA competition
- [Writer and Developer for UVA ML Club](#)
- UVA Google Student Developer Club
- [Jefferson Literary & Debating Society](#)

SKILLS

- **AI/Machine Learning Libraries:** TensorFlow, Keras, SciKit-Learn, PyTorch
- **ML Subfields:** Computer Vision, LSTM Time Series Analysis, Natural Language Processing
- **ML Tools:** Weights & Biases, OpenCV, Tableau Prep Builder, Google Colab
- **Data Science & Visualization:** R, NumPy, Pandas, Excel, Tableau, Matplotlib
- **Programming Languages:** Python, Java, C, C++, SQL, R, Lean, Git
- **Web Development:** HTML, JavaScript, Django, Heroku, TravisCI
- **Biological:** PCR, Western Blotting, Southern Blotting, Mammalian Cell Culture