Dinesh Kumar Ranganathan

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EDUCATION

UNIVERSITY OF ILLINOIS URBANA CHAMPAIGN | BS Computer Science + Astronomy Champaign, IL
| Expected May 2022
GPA: 3.2

WORK EXPERIENCE

JOBY AVIATION | Software Intern (Hardware Emulation) San Carlos, CA | June 2020 – Present

- Responsible for the emulation of various components of the Joby S4

JOBY AVIATION | Software Intern (Battery Software) San Carlos, CA | Jan 2020 – May 2020

- Reduced testing times by 600% by implementing faster-than-real-time tests and testing framework for the Battery Management System in C++ and Python.
- Increased developer efficiency by 10x by writing a state machine autogenerator that generates 1500+ lines of C++ code from a simple metalanguage in a 100 line YAML file.
- Analysed temperature data of the plane to isolate rapid increases using Databricks and Pandas.
- Designed modular and extensible GUI for current/future power supplies using Qt and Pymodbus.
- Automated takeoff procedures in the Docker based simulations with Python scripts.

NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS | Full Stack Developer (SPIN intern) [Part Time] Urbana, IL | Sep 2019 – Jan 2020

- Worked on the webapp of Aspiring Universe (`aspiringuniverse.com`), a precision agriculture company.
- Cropped, processed and served GeoTIFF data using Node.js and Rasterio (Python).
- Set up hosting, authentication and NoSQL database using Firebase and Google Cloud Platform.
- Implemented interactive and dynamically fetched map layers with React.

SKILLS

Programming Languages	C/C++, Python, Java, JavaScript, Ruby, Go, Verilog, SQL
Frameworks & Tools	React Native, Android, Rails, Node.js, Qt, Git, Latex, Docker, Linux, Bash

PROJECTS

GPA++ | Python(Flask, Pandas, Matplotlib, Jinja) `chinmayamahesh.me/gpa`
Search Engine for UIUC courses with over 6000 hits that serves detailed GPA and professor graphs.

ADDER | Python(NLTK, Flask), Lean `github.com/dineshkumar227/adder`
Automatically grades math proofs written in English using NLP and transpilation to Lean. Provides suggestions and hints to fix incorrect proofs.

DEADASSIGN | Python(Sympy, Numpy, Matplotlib) `github.com/dineshkumar227/dead-assign`
Experimental Differential Equations course to replace WebAssign with open source tools.

RFID VEHICLE TRACKING | C++, Arduino
Programmed an Arduino to manage traffic lights by tracking vehicle movements using RFID tags

ACTIVITIES

ACM GLUG
GNU/Linux Users Group that aims to provide a forum and community for Unix users on campus.