AMOGH SRIGOPAL

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EDUCATION

University of Illinois at Urbana-Champaign **May 2023**
Bachelor of Science in Aerospace Engineering, minor in Computer Science GPA: 3.53/4.00

Relevant Coursework:
Data Structures • Discrete Structures and Mathematics • Aerospace Flight Mechanics • Incompressible Flow • Differential Equations • Introductory Matrix Theory • Introduction to Statics • Dynamics • Thermodynamics • Aerospace Control Systems • Computer-Aided Design • Mechanics of Aerospace Structures

PROJECT EXPERIENCE

OpenFlights Route Planner Nov. 2021 – Dec. 2021
- Applied C++ data structures to map more than 10000 airports onto a connected graph containing airport name, city, states, and flight routes internationally
- Used Breadth First Search Algorithm to generate 67000 routes to traverse through over 3000 airports
- Implemented Dijkstra's Shortest Path Algorithm to determine the routes with least connections

Drone Design Problem Nov. 2021 – Dec. 2021
- Linearized differential system of drone motion and assessed controllability and observability of drone simulations run on PyBullet kernel
- Designed controller in Python which optimized drone movement to fly through randomly generated ring course in under 20 seconds with an average success rate of over 50%
- Tested simulation through 300 trials using GUI interface to assess success rate and consistency of drone performance and verify problem requirements
- Outlined controller and observer design as well as system linearization methods optimal design in a detailed report

Uniaxial Tensile Stress Response Oct. 2021 – Nov. 2021
- Generated Stress vs. Strain plots based on experimental data from over 241 trials of Cold Rolled Steel 1045, Aluminum Alloy 7075-T6, and Aluminum Alloy 2024-T4
- Assessed critical material properties such as proportional limit, yield stress, ultimate tensile strength, and failure strain
- Calculated model values such as 0.2% offset yield stress and young's modulus using elastic region obtained from generated plots
- Determined similarities between given alloys and how material strength properties of each are used in composite material for Boeing 787 Dreamliner

Nonograms Nov. 2019 – Dec. 2019
- Created mobile game application implementing object-oriented programming using Java in Android Studio
- Designed user interface using a 15 x 15 pictorial grid and onclick button features within Android Studio
- Wrote test cases for final application using JUnit testing framework that checked board size and game status
- Earned recognition from teaching assistants for being an advanced project among 248 groups

ACTIVITIES

Sigma Beta Rho National Multicultural Fraternity
Internal Vice President May 2021 – Present
- Deliberated 10 funding requests upwards of $20,000 each with an 11 man board to promote university housing
- Organized 6 fraternity events incorporating 40+ fraternity members with a $500 budget and COVID restrictions
- Facilitated relationships with 40+ active members and members to fortify chapter's national presence

SKILLS & INTERESTS

Programming Languages: Python, Java, C, C++, MATLAB, HTML
Software/Tools: Siemens NX, AutoDesk Inventor, SolidWorks, Git, GDB Debugger, Android Studio, Visual Studio Code
Interests: Basketball, Weightlifting, Cooking, Hiking