Advait Sawant

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OBJECTIVE

The purpose of my masters is to gain research experience in the fields of additive manufacturing technologies, machine learning, and advanced materials through coursework, projects, and faculty collaborations. After graduating, I seek to apply this expertise to various use cases in the industry. My long-term career interests lie in pioneering data-driven disruptions in additive manufacturing via machine learning.

EDUCATION

Pennsylvania State University — **State College, USA**
Master of Science in Additive Manufacturing & Design — *August 2022 - May 2024 (Expected)*

Relevant Coursework: Metal Additive Manufacturing, Scientific Principles of Additive Manufacturing, Metal Additive Manufacturing Lab, Non-Destructive Evaluation for Additive Manufacturing, Design for Additive Manufacturing (DfAM)

Birla Institute of Technology and Science, Pilani — **Goa, India**
Bachelor of Engineering in Mechanical Engineering — *August 2017 - August 2021*

Relevant Coursework: Production Planning & Control, Advanced Composites, Energy Management, Production Techniques, Engineering Optimization, Quality Control & Reliability, IC Engines, Product Design, Machine Design and Drawing, Material Science and Engineering, Supply Chain Management, Micro-Electro-Mechanical Systems (MEMS), Power Plant Engineering

MOOCs: IBM Data Science Professional Certificate offered by IBM on Coursera, DeepLearning.AI TensorFlow Developer(Certificate) offered by Deeplearning.ai on Coursera, SAS Statistical Business Analyst offered by SAS on Coursera

FACULTY RESEARCH & PROJECTS

ML for Defect Detection in Additive Manufacturing under Dr. Edward Reutzel and Dr. Jan Petrich (Ongoing).

- Used Computer Vision techniques on XCT Data to detect porosity defects in test samples.
- Ongoing application of Computer Vision on Electro-Optical sensor feeds for defect detection.

Long-Term Creep testing of Roto-Moulded Polymers under Dr. Sachin Waigaonkar.

- We analyzed the long term creep of Rotation Moulded Polymers to determine creep coefficient for long-term use through lab experiments.
- We were accurately able to measure the creep coefficients and pass on the conclusions to our industry partners.

OIT Testing of Polymers under Dr. Sachin Waigaonkar

- We analyzed the Oxidation Inductive Test times of various different polymers to determine their suitability for complex, time-consuming moulding processes.
- With this analysis, we were able to to find determine the polymers suitable for recycling and passed on the information to our industry partners.

Analysis and redesign of a moulded product failing in the field under Dr. Sachin Waigaonkar

- We analyzed a rotation moulded product failing in the field using CAD/CAE tools like ANSYS and PTC Creo to determine the cause of failure. We then redesigned the product such that it would not fail in the field with a minimum increase in cost.
- This model was then passed on to our industry partner who implemented the changes and reported on the success of the project.

TEACHING EXPERIENCE

Pennsylvania State University — **State College, PA, USA**
ME 330 Computational Tools - FEA and CFD using Solidworks — *January 2023 – Present*

MENTORING EXPERIENCE

- I mentored freshman students as part of the Peer Mentorship Program in my sophomore year.
- Every single mentee of mine cleared their freshman year without failing a single course.

COMPETITIONS

SAE BAJA 2019

- I was part of the Chassis Division at SAE BAJA BITS Goa chapter. I helped design the chassis in Solidworks, analyze it in ANSYS and build it using novel manufacturing techniques.
- We ranked 19th in the design phase.

SAE Aero 2020

- I was the manufacturing head at the newly formed SAE Aero BITS Goa chapter. I helped design, analyze and manufacture the aircraft using manufacturing methods like 3D printing.
- We ranked 5th in the presentation and 20th overall.

INDEPENDENT PROJECTS

Blockchain Chain Analyzer *December 2022 - January 2022*

- I created a chain analyzer to identify the type of wallets holding assets of a particular protocol on Ethereum and it's associated L2 blockchains using DeBank and FTMscan APIs.
- I applied machine learning algorithms on these wallets to cluster these wallets into categories for analysis.

Optimal Business Location Analysis *October 2020 – February 2021*

- Created a machine learning model to look at the geographical density of businesses (Coffee shops in this example) and find underserved clusters where a business could be expected to generate a profit.
- Identified the areas in Bangalore where coffee shops could be set up with minimal competition.

INDUSTRY EXPERIENCE

Airmeet **Bangalore, India**

Data Science Intern *January 2021 – June 2022*

- I worked in the Revenue Operations (RevOps) in an analyst role and later in the Analytics team in a data science role.
- In the RevOps team, I created Go-To-Market strategies, competitor Analyses and client data enrichment for shaping the company's sales strategy.
- In the Analytics team, I created machine learning models to analyze vast amounts of data; Some of these models types being: Time-Series Analysis, Regression, Natural Language Processing, and Clustering analysis. I also created automated data pipelines to facilitate easy data retrieval for analysis.

Mentor:Mr. Shardul Walwadkar

Aditya Birla Insulators **Halol, Gujarat, India**

Analyst Intern *May 2019 - July 2019*

- I worked with the management team at the Aditya Birla Insulators plant at Halol, Gujarat in the Polymer Manufacturing division as an Analyst intern.
- I analyzed the production process and highlighted inefficiencies for throughput improvement.

SCORES

Graduate Record Examination (GRE) *November 5, 2021*

- Score: 329/340
- Verbal: 162/170, Quantitative: 167/170, Analytical: 4/6

Test of English as a Foreign Language (TOEFL) *September 11, 2021*

- Score: 115/120
- Reading: 30/30, Listening: 30/30, Speaking: 29/30, Writing: 26/30