ADITYA AMATYA

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EDUCATION

Pulchowk Campus, Institute of Engineering, Tribhuvan University　　　　　　　　*Lalitpur, Nepal*
Bachelor of Mechanical Engineering　　　　　　　　　　　　　　　　　　　　　　　　*Nov 2019*

WORK EXPERIENCE

Yatri Motorcycles Pvt. Ltd.　　　　　　　　　　　　　　　　　　　　　　　　*Kathmandu, Nepal*
Lead CAE Engineer　　　　　　　　　　　　　　　　　　　　　　　　　　　　*May 2023 -Present*

- Developed the standard Virtual Test Design Procedure for Yatri's P1 Model and standardized the load cycle for fatigue analysis of the chassis and swingarm.
- Collaborated with the design team to optimize the chassis and increased the strength of the chassis by 68%.
- Performed fatigue analysis of chassis using Strain-Life approach and compared with experimental test.

CAE Engineer　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Nov 2022- May 2023*

- Developed the Multi Body Dynamics (MBD) model of the full assembly and achieved 85% correlation of acceleration, suspension travel and strain in virtual MBD model with the data from test department.
- Determined the hotspots in the chassis from MBD by integrating chassis and swingarm as flexible components.
- Reconstructed load on the chassis using time-series strain data obtained from road load data acquisition.
- Determined the optimum location of the strain gauge on chassis for the experimental testing of the motorcycle.

CAE Intern　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Jul 2022 – Nov 2022*

- Involved in benchmarking and optimization of motorcycles chassis based on stiffness analysis.
- Determined the CG location of the Yatri's P1 Model both experimentally and virtually with accuracy of 94%.
- Calculated the vehicle dynamics parameters: Static and Dynamic chain tension, wheelie and Stoppie condition.
- Performed Static Simulation of the side-stand by determining the actual load on the side stand experimentally.

Entegra Sources Pvt. Ltd.　　　　　　　　　　　　　　　　　　　　　　*Kathmandu, Nepal*
CAD & FEA Engineer　　　　　　　　　　　　　　　　　　　　　　　　*Feb 2020 – May 2022*

- Performed 3D CAD modelling of the various mechanical components comprising motorcycle helmet, disk brake, cyclone separator, heat exchanger and carried out its CFD and structural analysis.
- Prepared the engineering report for different projects as per client need.

ACADEMIC PROJECTS

Design and Analysis of Twin-Vertical-Tailed Fixed-Wing Unmanned Aerial Vehicle | Final Year Project

- Selected and compared different appropriate airfoils for UAV.
- Performed analytical calculation and sizing of the propulsion system that comprises brushless electric motor, propeller, electronic speed controllers, LIPO battery, etc.
- Performed the CFD analysis of the full UAV model as well as propeller to calculate the lift and drag forces.

Design and Testing of Buoyance assisted Trash Cleaner | Group Project

- Developed a manually driven, low-cost (completed under 60 USD) and sustainable solution for cleaning the lake.

Design and Testing of Automatic Fire Extinguishing Robot | Group Project

- Developed and implemented an autonomous fire extinguishing robot using Arduino, IR sensors, ultrasonic sensors, Servo, and DC motors, achieving a 90% success rate in extinguishing simulated fires.

Design and Kinematic Analysis of Theo – Jansen Mechanism to mimic the walking motion of animal | Class Project

- Developed thorough understanding of four-bar linkage mechanism and GIM software to analyze the displacement, velocity, and acceleration.

INTERNSHIP

Dairy Development Corporation, Balaju, Kathmandu *Dec 2018*
- Studied the existing belt conveyer system that transports the milk packages to chilling chamber.
- Modified its existing design of the conveyer system with focus on available space optimization.

AWARDS

Best Application Award (BE Mechanical Design Competition MechTRIX 8.0) *2018*
Awarded for Buoyancy Assisted Trash Cleaner Project

Title Winner for Best Innovative Design (BE Mechanical Design Competition MechTRIX 7.0) *2016*
Awarded for Automatic Fire Extinguishing Robot

COURSES

Finite Element Procedures for Solids and Structures | Instructor: Klaus-Jurgen Bathe
A free online course offered by MIT Open Courseware that presents effective finite element procedures for the linear and non-linear analysis of solids and structures.

Statistics with Python Specialization | Instructor: Brenda Gunderson, Kerby Shedden, Brady T. West
An online course offered from University of Michigan on Coursera, which is focused on data visualization, inferential statistical analysis and fitting statistical models to data with python.

PUBLICATIONS

Darlami, K., **Amatya, A**., Kunwar, B., Poudel, S., & Dhakal, U. (2020). "Design and Analysis of Twin-Vertical-Tailed Fixed-Wing Unmanned Aerial Vehicle". *Journal of Automation and Automobile Engineering*, 5(3), 12–30. https://doi.org/10.46610/joaaen.2020.v05i03.003

MENTORING EXPERIENCE

Workshop on Finite Element Simulation using ANSYS *July* 2022
- Mentored 56 Mechanical and Aerospace engineering students in the 7 days' Workshop on Finite Element Analysis organized by Department of Mechanical Engineering, Pulchowk Campus

Introduction to 3D CAD Modelling using SolidWorks *Sep* 2018
- Instructed 68 Mechanical Engineering Students on 10 days' Workshop on 3D CAD modeling organized by Department of Mechanical Engineering, Pulchowk Campus

TECHNICAL SKILLS

- 3D CAD Modeling   SolidWorks, FUSION360, Inventor, AutoCAD
- FEA Simulation   Altair HyperMesh, ANSYS Mechanical
- MBD Simulation   Altair MotionView, ADAMS and RecurDYN
- Programming   Python, C, and R language
- Front End Web Development   HTML, CSS, & JavaScript

LEADERSHIP & TEAMWORK

Society of Mechanical Engineering Students, Pulchowk Campus | Human Resource Manager *2017 - 2018*
- Organized national level Mechanical Engineering Exhibition, MechTRIX 9.0
- Conducted Math & Physics Olympiad and BE Design Competition
- Organized Workshops, Trainings and Talk Series to inform students themed on innovation and entrepreneurship.

AIESEC Nepal, Kathmandu | Committee Member *2017 - 2018*
- Organized Youth empowering Seminar & Global Village and Interacted with different Youths on SDGs

Referees are available on request.