

# Damodar Dahal

Lead full stack engineer

.NET | Java | Node.js | JavaScript | PHP | React/React Native | SQL | AWS | Linux | Python | TensorFlow | MATLAB | C++

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## WORK EXPERIENCE

**Team Lead, Acropolis Education, Inc.** (May 2019 – present)

Led a team of 6 inspired individuals for the development of *PortableLion*, a virtual campus solution for HigherEd. ([iOS store](#))

- Deployed an EdTech platform on AWS for Southeastern Louisiana University which allows students, faculty and staff to see personalized class schedules; campus facilities on a map along with hours of operation and phone numbers; with a central news feed panel featuring Tweets, campus events, weather, and articles from newspaper.
- Recruited 6 students as for 3-12 months and led development of a 5-system microservice architecture consisting of an API (.NET), admin panel (React), news scraper (Python), nginx, and a mobile app (React Native).
- Promoted solution by publishing article on newspaper, MailChimp campaigns, Facebook groups, and direct emails to gain 4x student users from 100 to 500 within weeks for beta testing. Full release will happen on Fall 2020.
- Incorporated startup with vision to scale; realized unsustainable business model; seeking for a change.

**Intern Software Engineer, GCR, Inc.** (May 2018 – March 2019)

Developed business **workflow engine** for govt. of Virginia based on similar in-house solution for govt. of Arizona.

- Received team lead's **permission** to design a validation framework for **workflows** based on hooks that are triggered during workflow life cycle (begin, process, end) to use as a base for developing 60+ business rules.
- Completed 50-70 tasks to fix bugs and integrate simple features on front end and back end including core workflow engine, **payment processing**, large (GB) **file management**, database **backups**, and third-party **address validation**.

**Lead engineer, 8Byte Creative Studio Private Ltd.** (June 2015 – June 2018)

Founding engineer of award-winning startup creative engineering team behind their flagship product, *Kopila*.

**Kopila**: a remote learning ecosystem for 60+ preschools and 11,500+ parents, teachers and preschool students. ([website](#))

- Followed company vision to launch an **EdTech** ecosystem (app for teachers/parents/students) by leading admin panel R&D (**Angular.js/Express.js/MongoDB**) for 40+ customers (later used to develop tiered-pricing schemes).
- Routemandu**: a bus **navigation** system for the capital city of Nepal endorsed by the director of Nepal Tourism Board.
- Competed in Nepal's largest app dev conclave with 750 other ideas and awarded final spot in the 'utilities' category for prototyping an app to show public **bus routes, fares and ETA** in Kathmandu, Nepal. (Node.js/Java)
- WoolCustomizer**: an e-commerce solution for a worldwide exporter of felt ball rugs and carpets.
- Delivered an **e-commerce** website for one of Nepal's biggest carpet exporter for NRs. 3 lakhs (~USD \$130K in comparison by GDP) to help client reach **international** consumers through online ordering and delivery of customized carpets. Expedited product development by using **PHP/WordPress** framework.
- Created a canvas **drawing pad** to allow consumers to design their own carpets by using standard drawing tools: brushes, shapes and sizes, color palette, carpet templates, **undo/redo** (JavaScript/MySQL).

## EDUCATION

**BSc. Computer Science and Mathematics, Southeastern Louisiana University.** (August 2016 – May 2020)

Computer Science and Mathematics major, Physics minor with 3.68 cum. GPA. 185 credits completed/120 required.

- **Computer Science**: operating systems (**Linux**), advanced network security, automata, **algorithms** and data structures, computer architecture, low-level systems, 5 hours internship, 3 hours joint **research** with professor.
- **Mathematics**: coding theory and cryptography, **combinatorics** and **graph theory**, number theory, abstract algebra, differential equations, applied statistics, linear algebra, numerical analysis, 3 hours joint **research** with professor.
- **Physics**: **quantum** physics, general **relativity**, thermal physics, electromagnetism, general labs.
- **Coursera MOOC**: **Machine Learning, Neural Networks** and **Deep Learning in Python/TensorFlow; Cryptography**.
- **Activities**: Chairman of ACM student chapter; **network engineering** int. for 4 months in the Office of Technology; attended **DEFCON** (cybersecurity), APS March Meeting (Physics) and **MAA** annual meetings (math).

## RESEARCH PROJECTS

- Survey of **Machine Learning** Techniques for **EEG Single-Trial Classification** ([paper](#). Advisor: Dr. Omer Soysal)
  - Classified 32-bit binary-labeled EEG signals using digital signal filter, dimensionality reduction, cross validation and supervised classification of mental arithmetic exercises. Improved existing algorithm's accuracy by 3.8% by developing a framework for fine-tuning signal filter parameters (**Python/scipy/TensorFlow/signal processing**).
- **ROOMIE-1: a LSU-NASA-sponsored** 12-month research led by department head of physics to develop and test a **BASIC stamp microcontroller circuit**, and launched to collect atmospheric data from up to 30.0km using a weather balloon ([article](#)).
- **Langford pairings** (a joint research with professor of mathematics, Dr. Daniel Acosta. MAA 2018 [slides](#)) (**Python/Golang**).

## INTERESTS

**Machine learning** | meditation | number theory | teaching