# Pradeep Bajracharya

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**Research Interest** *Bayesian active learning, Uncertainty Quantification, Deep learning and Machine Learning*

**Education**

**PhD in Computing and Information Sciences** **2018 - Present**
Rochester Institute of Technology, Rochester, NY, USA
**Advisor**: Dr. Linwei Wang
**Research Group**: CBL Lab
**Relevant Courses**: Deep Learning, Image Processing and Computer Vision, Probability, Noise System Modeling

**Bachelor in Electronics and Communication Engineering,** **2011 - 2015**
Pulchowk Campus, Tribhuvan University, Nepal (82.97%) Distinction
**Relevant Courses**: Probability and Statistics, Numerical Methods, Mathematics I, II, III, IV, Computer Programming I, II, Signal Analysis, Image Processing and Pattern Recognition

**Scholarships & Awards**

**Prof. F.N. Trofimenkoff Academic Achievement Award** **2019**
for graduating top of the class (2015) in BE Electronics and Communications Engineering

**RIT Ph.D. Merit Scholarship**, Financial assistance for **Aug 18 - Present**
Ph.D. studies at Rochester Institute of Technology

**Ncell Scholarship and Excellence Award**, of NRs. 100,000 was **2015, 2016**
awarded to top student of BE Electronics and Communications, Electrical and Communication, and Computer

**The College Fellowship Scholarship**, in various semesters (viz. **2011 - 2015**
Years/Semesters I/I, I/II, II/II, III/I, III/II, IV/I) and and **Full-fee scholarship** in semester I/II

**Techinical Skills**

**Languages :** Python, C++, C
**Tools/Framework :** Matlab
**Deep Learning Tools :** PyTorch, Basic Tensorflow, and Keras
**Database :** MySQL, MongoDB
**Familiar :** Symfony, Laravel, PHP, Javascript, HTML, CSS, NodeJS
**Miscellaneous :** Git, LaTeX, Object Oriented Programming

**Journal Article**

**Embedding High-dimensional Bayesian Optimization via Generative Modeling: Parameter Personalization of Cardiac Electrophysiological Models**
Dhamala, J., Bajracharya, P., Arevalo, H. J., Horcek, B. M., Wu, K. C., Trayanova, N. A., Wang, L. *Medical Image Analysis (MedIA), 2020*

**Conference Article**

**Indoor Odometry and Point Cloud Mapping** Ligal, P. S., Acharya, B., Bajracharya, P., Shrestha, P., Pokharel, P., Ghimire, S. K. Indoor Odometry and Point Cloud Mapping.
*Proceedings of IOE Graduate Conference, 2017*

**Experience**

**Research Assistant** **Jun 19 - Present**
Computational Biomedicine Lab
Rochester Institute of Technology, NY, US
Research area: Bayesian active learning and its use for uncertainty quantification in multiscale multi-physics models; Deep learning and Machine Learning

**Teaching Assistant** **Aug 18 - May 19**
Imaging Science Department
Rochester Institute of Technology, NY, US

**Senior Developer** **Aug 16 - June 18**
Kazi Studios, Bhanimandal, Lalitpur, Nepal
Development of Web based solutions, and CRM systems including medical inventory system, and tourism portals. Also worked on smart home system controlled via android, and IOS platform.

**Teaching Assistant** **April 16 - Aug 16**
Department of Electronics and Computer Engineering
Pulchowk Campus, Tribhuvan University, Nepal

**System Engineer** **Nov 15 - April 16**
E&T Nepal Pvt. Ltd., Lokanthali, Bhaktapur, Nepal
Development of Calculation Solver for CFD simulation with CUDA on NVIDIA GPUs for simulation software "MUJO"

**Collaboration Project Internship** **May 14 - Dec 14**
E&T Nepal Pvt. Ltd., Lokanthali, Bhaktapur, Nepal
Took on project named High Speed Data Transfer to make the existing data transfer faster.

## Projects

**Blindness Assistive tracing Band** **Aug 2015**
Hardware interface with LiDAR and camera to trace environment for visually impaired person

- **Technology/Tools:** C in Arduino
- **Role:** Programmer and Hardware designer and developer (in team of 4)

**3D Scanning and Odometry** **Nov 2014 - Aug 2015**
Hardware based project that scans the surrounding using LiDAR (Light Detection and Ranging) and creates 3D map after scanning. Mapping and Visualization is implemented using Point Cloud Library for filtering and segmentation.

- **Technology/Tools:** C/C++ in Arduino and Qt Creator with OpenGL
- **Role:** Programmer and Hardware designer developer (in team of 4)

**High Speed Data Transfer** **May - Dec 2014**
High Speed Data Transfer (HSDT) is a project for increasing the data transfer speed of existing network infrastructure in collaboration with E&T Nepal Pvt. Ltd. It implemented new transport layer protocol named UDT.

- **Technology/Tools:** C++ in Visual Studios 2012
- **Role:** Programmer and Team Lead (in team of 2)

**Ethernet based Home automation** **May - Aug 2014**
A Web interface, created in HTML, that allows the user to control various household appliances linked via the Ethernet network through any web based consumer electronics.

- **Technology/Tools:** C in Atmel Studio, HTML
- **Role:** Programmer and Hardware designer and developer (in team of 4)

## Certification

• **Neural Networks and Deep Learning** by deeplearning.ai on *Coursera*
*Verify : coursera.org/verify/3MPX68UEQPTL*
• **Bayesian Methods for Machine Learning** by National Research University Higher School of Economics on *Coursera*
*Ongoing*

**Professional Service**

• Head Designer for "Locus Journal" magazine (a tech magazine focusing on the latest in technology and research paper from students) for LOCUS - Technological Festival, Pulchowk Campus, Tribhuvan University, Nepal (2015)
• Co-editor Magazine for Rotaract Club of Lalitpur, Nepal covering different events organized throughout the year (2014/2015)
• Stage Management Coordinator Candle Walk 1135, an annual event organized every year by the Rotaract Club of Lalitpur, Nepal on the festival of Tihar (Oct 2014)
• Head Designer for the first issue of "Graphene" magazine, a tech magazine focusing on the latest in technology (2012)

**Additional Activities**

• Technician Level Amateur License Holder in Nepal (2016 - Present)
• Technician Level Amateur License Holder in USA (2019 - Present)
• Volunteering experience at LOCUS - Technological Festival, Pulchowk Campus, Tribhuvan University, Nepal.