

Neerad Nandan

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Research interests Quantum Optics, Spin dynamics, Machine Learning & Deep Learning Algorithms.

Education

ITMO University St. Petersburg, Russia
PhD in Spin dynamics Sep 2022
Mentors : Professor Andrey V. Volotka
Assigned Topic : Finding higher order terms for spin exchange interaction of cold atoms

MIPT University Moscow, Russia
Russian Language Sep 2021 – Sep 2022

ITMO University St. Petersburg, Russia
MS in Machine Learning and Data Analytics Aug 2018 – Aug 2020
Mentors: Professors Aleksander Farseev, Andrey Filchenkov *GPA: 4.56/5.00*

ITMO University St.Petersburg, Russia
MS in Nanophotonics and Metamaterials Aug 2017 – Aug 2018
Mentors: Professor M.V. Rybin

Delhi Technological University New Delhi, India
B.Tech in Engineering Physics Aug 2012 – Aug 2016
Mentors: Professors Ajeet Kumar, R.K. Sinha *GPA: 6.6/10*

Honors and scholarships

Student Scholarship and Stipend (ITMO University, Russia) 2022-26
Student Scholarship and Stipend (ITMO University, Russia) 2017-18
SPIE Student Officer's Grant (SPIE Optics + Photonics, San Diego, USA) 2015
Xth Exam Scholarship (Amity International School, Ghaziabad, India) 2009

Publications

Study of high-index dielectric nanoparticles by means of virtual surface currents method
Neerad Nandan, Mikhail V. Rybin.
Days of Diffraction 2018.

Design and analysis of chevrons shaped split ring resonator in the mid-infrared region

N. Nandan, T.S. Saini, A. Kumar, R.K. Sinha.

Proceedings Volume 9544, Metamaterials, Metadevices, and Metasystems 2015

Research experience

User Behavior Analysis in Online Social Networks

Mentors: Professor Farseev A. (ITMO University, Russia) Jan 2020 – June 2020

It is required to develop to look into the field of NLP for applying Tf-idf forms and word em- beddings like Word2Vec and Fasttext along with contextual em- beddings which use DL,viz., BERT, ELMO and Universal Sentence Encoder. .

Summary of finding :

We saw that modified tf-idf performed the best among all methods, while Logistic Regression and Support Vector Machine performed equally well and were the best models irrespective of the feature extraction methods used. Mod- ified tf-idf improved the performance with respect to standard tf-idf by 4-6% while word embedding and contextual embedding in general decreased the performance in the range of 10-20% with respect to modified tf-idf.

Analysis of Near Perfect Metamaterial Absorber in the mid infrared region

Mentors: Professor S.A. Ramakrishna (IIT Kanpur, India) June 2015 – Nov 2015

FEM Simulation of a gold disk model placed on a substrate placed over dielec- tric VO₂ and surrounded by glass substrate and PML layer, where the classical Drude model is applied to the gold disk in the mid infrared range. It is run over 20-45 MHz range, where we see 97% absorption peak at around 11.7 microns.

Teaching experience

English Teacher, Voluntary work

2018-19

Taught students from grade 7-10 as well as adults for University prepara- tion and Pronunciation improvement following CLT method as well as Direct, Grammatical and a mix of different methods.

Industry experience

Pados Retail

New Delhi, India

Product Marketing Manager

Sep 2020- Sep 2021

Lead generation using Facebook & Google ads and onboarding new users on the Pados App by engaging users on the phone calls, SMSs and WhatsApp as a part of the onboarding process. Setting up the analytics dashboard on redash.io and wrote SQL queries.

Skills

Programming

Proficient in: Python 3.x

Familiar with: MATLAB

Novice in : JavaScript

Languages

English (fluent), Hindi (fluent), Russian (intermediate)

Professional
memberships

SPIE

2015 – Present

Attended the SPIE Optics + Photonics 2015 Conference in San Diego, California, USA where I presented my paper for the Proceeding and attended conference related to Hyperbolic Metamaterials and BioPhotonics.

Other interests

Strumming Guitar, Karaoke, Fiddling with Electronics & gadgets.