

DEEPIKA KUMAR

OBJECTIVE

Passionate about applying Python, statistical analysis, and AI techniques to improve complex data interpretation. Experienced in building predictive models using real-world medical data. Seeking opportunities to contribute to data-driven innovation while expanding my domain knowledge and technical depth.

PROJECTS

PREDICTING MMSE (MINI-MENTAL STATE EXAMINATION) SCORE USING BASELINE IMAGING AND CLINICAL DATA

- Developed machine learning models to predict baseline MMSE scores using clinical, genetic, and neuroimaging biomarkers from the ADNI dataset, achieving an R^2 of 0.67 with Ridge Regression.
- Engineered modular preprocessing pipelines with imputation, scaling, and encoding; applied GridSearchCV for hyperparameter tuning across multiple regressors including SVR, XGBoost and Random Forest.
- Deployed a Flask web app for real-time MMSE score prediction.

SCHIZOPHRENIA CLASSIFICATION USING MACHINE LEARNING ON EEG DATA

- Developed an EEG-based classification model to distinguish between schizophrenia patients and healthy controls.
- Extracted neurophysiological biomarkers (coherence, phase-locking value, connectivity, gamma power, relative gamma power) from EEG signals.
- Applied machine learning models (SVM, Random Forest, Logistic Regression, Decision Tree, k-Nearest Neighbors) for diagnosis support.

BRAIN TUMOR DETECTION USING CONVOLUTIONAL NEURAL NETWORK ON MRI DATA

- Designed and trained a CNN model to classify brain tumors from MRI scans.
- Preprocessed images for segmentation, augmentation, and feature extraction.
- Improved classification performance through hyperparameter tuning.

CONTACT

Email:
deepika.kumar.chd@gmail.com

Website:
<https://deepika-kumar-chd.github.io/Deepika-kumar-chd/>

Github:
<https://github.com/Deepika-kumar-chd>

SKILLS

Machine Learning
Deep Learning
EEG Preprocessing

PROGRAMMING & TOOLS

Python
SQL
MNE-Python
TensorFlow
SciPy
Scikit-Learn
NumPy
Pandas
Matplotlib
Seaborn
Git
JavaScript
HTML
CSS

EXPERIENCE

SYSTEM ENGINEER – ACCESS MANAGEMENT

May 2021 - May 2023 (TietoEvy - CBRE)

Competence Field: SQL, Active Directory, Azure DevOps

- Enhanced operational efficiency by optimizing the access termination process, significantly reducing processing time.
- Increased security compliance by implementing Access & Identity Management (AIM) solutions aligned with SOX regulations in the U.S.
- Improved troubleshooting speed by proactively resolving user login/access issues and escalating complex cases to Level 3.
- Strengthened data security by maintaining domain user accounts and group memberships using Active Directory.
- Optimized team collaboration by documenting all access management processes and policies in Confluence, increasing knowledge retention and reducing onboarding time for new team members.

SYSTEM ENGINEER – WEB APPLICATIONS & TESTING

Sep 2020 – Apr 2021 (TietoEvy - Lexin)

Competence Field: Vue.js, JavaScript, HTML, CSS, Cypress

- Improved debugging efficiency by designing and developing a log viewer for the Editor Portal, streamlining issue resolution.
- Increased software reliability by creating and executing comprehensive test cases (both positive and negative) to validate system behaviour.
- Reduced testing time by automating frontend UI testing using Cypress, enhancing test coverage and accuracy.
- Ensured seamless user experience by conducting manual testing and API testing for new features and deployments.
- Maintained application stability through extensive regression testing, preventing defects from reoccurring in production.

ASSOCIATE SOFTWARE ENGINEER

Jan 2020 - Aug 2020 (TietoEvy - Bildetema)

Competence Field: React.js, JavaScript, HTML, CSS

- Boosted frontend performance by implementing Lazy Loading, reducing initial page load times.
- Enhanced development efficiency by designing and maintaining reusable React.js components, cutting redundant work.
- Improved UI/UX consistency by building responsive frontend designs using Bootstrap, ensuring cross-device compatibility.

EDUCATION

PANJAB UNIVERSITY 2018

Bachelor of Engineering in Electronics and Communication

THE PUNJAB STATE BOARD OF TECHNICAL EDUCATION & INDUSTRIAL TRAINING 2015

Diploma in Electronics and Communication

ADDITIONAL LEARNING

NEUROMATCH ACADEMY – COMPUTATIONAL NEUROSCIENCE (ONLINE COURSE)

MACHINE LEARNING & DEEP LEARNING (SELF-TAUGHT VIA ONLINE COURSES & PROJECTS)

NEURAL DATA SCIENCE IN PYTHON (ONLINE COURSE)