MINASTIK TECHNOLOGY
JOINT STOCK COMPANY

PORTFOLIOS

2024

www.minastik.com

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OUR PROJECT

- SMART VIDEO PLATFORM
- FULL POWER PROJECT MANAGEMENT
- AI CHATBOT
- CREDIT SCORING
- FINGERPRINT RECOGNITION ON SMART CHIP CARDS

SMART VIDEO PLATFORM

1 PROJECT DESCRIPTION

Building a smart interactive video platform:

- Allows viewers to interact with brands by direct actions on video using computer vision, image/video processing and object detection algorithm.
- Provide brands with parameters that reflect the quality of marketing channels, helping brands optimize costs and effectiveness of campaigns.

2 TECHNOLOGY

- Python, Angular, NodeJS, MongoDB
- Google Firebase, AWS

OUR CLIENT

joyTu.be

- A deep-tech startup on smart, shoppable video SaaS for PR - Marketing - Sales.
- Smart video platform technology brings many benefits: **automatic data analysis, advertising and reaching many people, enhancing user experience, reducing risks and improving safety**, studying human behavior consumers, can analyze data from videos to make strategic decisions for businesses and organizations.

FULL POWER PROJECT MANAGEMENT

1

PROJECT DESCRIPTION

- Build an information system to calculate electricity consumption for each household, manage high-voltage power outages, and daily electricity transmission flow.
- Customer care system notifies users of electricity consumption each month and reminds late payment
- Build and develop an electrical safety equipment management model applying artificial intelligence, attendance and safety inspection model for workers and electrical engineers.

2

TECHNOLOGY

- ReactJS, .NetCore, My SQL
- AWS, Python, MongoDB, Flask

OUR CLIENT

EVN HANOI

- EVN has applied the most advanced electricity safety management technologies, helping to monitor and control the power network accurately and flexibly.
- Automation systems, smart sensors and multi-dimensional data analysis are integrated, creating a safe and effective management environment.
- Help EVN have **System Security**, **Energy Saving** and **Faster Response**.

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AI CHATBOT

1 PROJECT DESCRIPTION

- Develop Chatbot that automatically answers questions.
- Develop AI Chatbot that integrates Chat GPT into answering questions.

2 TECHNOLOGY

- Python, Angular, NestJS

OUR CLIENT

ESCHOOL * AN URBAN VILLAGE SCHOOL *

- ESchool International School
- Having study courses according to the Oxford and Cambridge Programs.
- 800 students per year.

DCon

- Dynamic Vietnamese connection
- Offers courses in Sensory Processing Disorders.
- 400 students per year.
- 10,000 parents contact each year.

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CREDIT SCORING

1 PROJECT DESCRIPTION

- Analyze and process customer data
- Develop and deploy AI algorithms to automatically calculate personal credit scores
- Successfully raised $3 million in capital from Belt Road Capital Management fund

2 TECHNOLOGY

- Flask, Python

OUR CLIENT

tima
Vay trong ngày

- TIMA is the largest and most prestigious financial connection platform in Vietnam, in operation since 2015 as the first provider of peer-to-peer lending technology platform (P2P Lending) in Vietnam.
- Credit Scoring technology has helped TIMA **effectively manage costs, increase competitiveness and reduce risks** when borrowing capital, encouraging people to be responsible with their financial resources.

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FINGERPRINT RECOGNITION ON SMART CHIP CARDS

1 PROJECT DESCRIPTION

- Develop an algorithm to recognize fingerprints on cards using computer vision algorithm.
- The algorithm ranked 5th (in the FMR10000 ranking) in the Fingerprint Verification Competition

2 TECHNOLOGY

- C/C++

OUR CLIENT

MK smart
Smart Digital Security

- MK Group is currently 1 of 6 companies in the world that owns core technology for electronic citizen identification and electronic passports.
- Fingerprint Recognition Technology on Smart Chip Cards brings many benefits: simplicity and convenience, easy integration, **effective access management, reduced risk of fraud, high security, reduced management costs password.**

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OUR TEAM

DUONG TAN NGHIA

SUMMARY

- Worked in Agile team which applies SAFe framework for 5 years as back-end developer and 2 years as front-end developer.
- Built scalable and responsive web applications by using Java, Spring, Hibernate, JPA, Kafka, and Angular.

SKILL

Programming language	Matlab, C/C++, Python, JavaScript
Framework	Tensorflow, Pytorch, Numpy, Pandas, Matplotlib, OpenCV, Angular,...
Database	MongoDB, MySQL,...
Source Control	Github Gitlab

EDUCATION

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Doctor of Philosophy

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EXPERIENCE

DUONG TAN NGHIA

1

Fingerprint Recognition on Smartcard

- Team size: 5 - Technology: C/C++
- Position: Developer
- Responsibility: Algorithm developer for fingerprint matching-on-card; Develop fixed-point algorithm for implementation on card; Algorithm ranks 5th (at FMR10000 leader board) in Fingerprint Verification Competition-onGoing.

2

Implement fingerprint matching algorithms on low-memory devices

- Team size: 5 - Technology: C/C++
- Position: Project Owner
- Responsibility: Develop fixed-point algorithm for low-memory devices; Implement algorithm on Smartcard.

3

Build an AI model for customer credit scoring in P2P lending platform

- Team size: 3 - Technology: Flask, Python
- Position: Project Leader
- Responsibility: Analysis and process profile data of borrowing customers; Develop ML algorithms credit scoring; Implement an AI model based on Machine Learning algorithms; Raise 3,000,000 US dollars (series B) from Belt Road Capital Management

4

ACM RecSys Challenge 2018

- Team size: 5 - Position: Team Leader
- Technology: Python, Pandas, Tensorflow,...
- Responsibility: Suggest appropriate songs to add to a playlist; BKAI team ranks 17th at main track leader board

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EXPERIENCE

DUONG TAN NGHIA

5

Develop an interactive video platform – joyTu.be

- Team size: 5
- Technology: Angular, NodeJS, MongoDB, Google Firebase, AWS
- Position: Team Leader
- Responsibility:

Develop frontend and backend for joyTu.be
Deploy joyTu.be into Amazon Web Service
Winner of Singapore Tourism Challenge (2019)
Provide services for Ivy Moda, HP, LeMedia, LeBros, Standard Chartered Bank Vietnam.

6

AI in safety management for EVN Hanoi

- Team size: 6
- Technology: Python, MongoDB, MXNet, Tensorflow, ReactJS, Flask
- Position: Team Leader
- Responsibility:

Implement an OCR system to detect and recognize Vietnamese accent marks from images using Pytorch and exposing via Flask Rest API.
Develop a Face Recognition and Verification roll-call system using MXNet, Tensorflow.
Program a roll-call web application for end-users using ReactJS and Flask.

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OUR TEAM

DO TRUONG GIANG

SUMMARY

- 3.5 years research experience in machine learning algorithms and deep learning architectures, mainly concentrating on recommendation systems.
- Reimplement recommendation algorithms from research papers, research machine learning and deep learning algorithms to improve state-of-the-art recommendation systems.

SKILL

Programming language	Python
Framework	Tensorflow, Pytorch, Numpy, Pandas, Matplotlib, OpenCV, Langchain, Pinecone,...
Database	MongoDB
Source Control	Github Gitlab

EDUCATION

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Master's Degree in Computer Engineering

EXPERIENCE

DO TRUONG GIANG

1

AI in safety management

- Team size: 5 - Position: Developer
- Technology: Python, Pytorch, MXNet, Tensorflow, Flask Rest API, Faiss.
- Responsibility:

Implement an OCR system to detect and recognize Vietnamese accent marks using Pytorch and exposing via Flask Rest API.
Develop a Face Recognition and Verification roll-call system using MXNet, Tensorflow.
Program a roll-call web application for end-users using ReactJS and Flask.

2

Fast Recsys

- Team size: 1 - Position: Project Owner
- Technology: Python, Tensorflow, Cython, Numba, Pandas,...
- Responsibility:

A library contains several recommendation system algorithms on the rating prediction problem using Python and Numba library, which attempt to improve the workflow in researching recommendation algorithms. The project code can be accessed from this link: https://github.com/trgiangdo/fast_recsys.
The implementations improve the runtime of recommendation algorithms by at least 5 times compared to other implementations in Python and Cython.

3

Dive into Deep Learning Vietnamese translation

- Team size: 10 - Position: Developer
- Duration: 6 months (06/2020 - 12/2020)
- Description: Interactive deep learning book with code, math, and discussions. Implemented with PyTorch, NumPy/MXNet, JAX, and TensorFlow.

OUR TEAM

PHAM THI THU TRANG

SUMMARY

- 3.5 years research experience in machine learning algorithms and deep learning architectures, mainly concentrating on recommendation systems.
- R&D computer vision systems to solve text recognition, object verification, and face recognition problems.
- Responsible for implementing computer vision models, exposing models via Rest API, analyzing data and writing technical documentation.

SKILL

Programming language	Python
Framework	Tensorflow, Pytorch, Numpy, Pandas, Matplotlib, OpenCV, Langchain, Pinecone,....
Database	MongoDB
Source Control	Github Gitlab

EDUCATION

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Specialized in Electronics and Telecommunications

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EXPERIENCE

PHAM THI THU TRANG

1

A generalized AutoRec framework applying Content-based information for resolving data sparsity problem

- Team size: 5 - Position: Developer
- Technology: Python, Tensorflow
- Description: A framework for resolving data sparsity problem in Recommendation systems.
- Duration: 1 year (12/2022 - 12/2023)
- Responsibility: Solution stack: handling the sparse data problem and the cold-start problem by varying the input of the Autorec model using a variety of content-based information.

2

AI in safety management

- Team size: 5
- Position: Developer
- Duration: 1 year (06/2020 - 06/2021)
- Technology: Python, Pytorch, MXNet, Tensorflow, Flask Rest API, Faiss
- Description: AI in safety management for EVN Hanoi
- Responsibility:

Implement an OCR system to detect and recognize Vietnamese accent marks from images using Pytorch and exposing via Flask Rest API.
Develop a Face Recognition and Verification roll-call system using MXNet, Tensorflow.

3

A purchase history exploratory data analysis

- Team size: 3 - Position: Project Manager, Developer
- Duration: 1,5 years (06/2021 - 12/2022)
- Description: A purchase history exploratory data analysis for IvyModa
- Technology: Python, Tensorflow, Pandas, Matplotlib

PUBLICATIONS

1. "Utilizing an Autoencoder-Generated Item Represen-tation in Hybrid Recommen-dation System" in IEEE Access, vol. 8, pp. 75094-75104, 2020.
2. "Utilizing Half Convolutional Autoencoder to Generate User and Item Vectors for Initialization in Matrix Factorization." Future Internet 14, no. 1 (2022): 20.
3. "Hybrid Similarity Matrix in Neighborhood-based Recommendation System." In 2021 8th NAFOSTED Conference on Information and Computer Science (NICS), pp. 475-480. IEEE, 2021.
4. "User-Item Correlation in Hybrid Neighborhood-Based Recommendation System with Synthetic User Data." Accepted to publish in 2022 IEEE 9th International Conference on Communications and Electronics (ICCE).
5. "An Effective Similarity Measure for Neighborhood-based Collaborative Filtering." 2018 5th NAFOSTED Conference on Information and Computer Science (NICS), 2018
6. "A local feature vector for an adaptive hybrid fingerprint matcher." 2017 International Conference on Information and Communications (ICIC), 2017

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