Overview

Name

Mr Iyalla John* Alamina

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Communication Details

Telephone

Mobile	07459136287 *(Preferred for Contact)*

E-Mail

E-Mail	john.alamina@hud.ac.uk

Application Statement

I am currently rounding up my PhD Thesis at the University of Huddersfield. My Research is on the development of Scattering features for End-to-End Low Resource Speech Recognition. This focuses on deep scattering network being used as discriminating features for end-to-end speech recognition featuring bi-directional recurrent neural network.

I am passionate about speech recognition for low resource languages and my research has made me venture into dynamic machine learning frameworks like Tensorflow and Scikit Learn including traditional ones like HMM-toolkit, Kaldi and Sphinx4. I have also during my research been involved with a number of teaching activities including assignment assessment, laboratory and class demonstrations. Subjects I have been involved in teaching across Linguistics and Computer Science departments include:
- Field Linguistics
- Machine Learning
- Database Applications
- Database Driven web applications

I have also developed a tutorial series on machine learning used to introduce postgraduate researchers to Machine learning using the python platform libraries.

I have shown interest in development of the MSc Data Science course here at the University of Huddersfield. However, due to the time needed to complete my thesis, I haven't been actively involved in the committee.

My current research interests include:
- Low resource speech recognition
- Deep Learning approaches to Speech and language processes

Education

University of Huddersfield	
Period	01.01.2015 - 31.12.2019
Country	United Kingdom
Qualification	PhD
Subject	INFORMATICS (Speech Processing)
Final Grade	

Description

This thesis investigates and acknowledges the various limitations of Deep Neural Network (DNN) techniques when applied to low resource speech recognition. Various aspects of developing corpora for speech recognitions systems are explored. In particular various recurrent neural network (RNN) techniques were explored to implement end-to-end speech models, language model (LM) and the phonetic dictionary aspects of speech recognition. Gated Recurrent Units (GRU) RNNs were used employed for the language model and the phonetic dictionary for the Wakirike language while bidirectional recurrent neural networks (bi-RNNs) were used to create end-to-end speech recognition model for English language.

Previous systems employed for low resource speech recognition involving deep networks included various knowledge transfer mechanisms including hybrid hidden markov models (HMM) to deep neural networks (HMM-DNN) models and those that are HMM alone-based include subspace Gaussian Mixture Models (GMMs). These models are based on the HMM generative model and N-gram language models. However, the model developed in this thesis makes use of an end-to-end discriminative model using the Bi-RNN acoustic/speech model augmented using speech features from a specialised light weight convolution network-the deep scattering network (DSN). The advantage of using a light weight DSN is to reduce the training time required by bi-RNNs at the same time focusing on end-to-end speech units as a one step process rather than a three-step process requiring an AM, LM and phonetic dictionary. The research therefore shows it is possible build speech recognition systems with less resources, that is, with only aligned acoustic data. At the same time the inherent problems of speech recognition, that is, determining the relevant speech features required for accurate speech pattern recognition can be addressed by making use of deep scattering network features as opposed to traditional speech features.

Education

University of Huddersfield	
Period	02.10.2013 - 26.09.2014
Country	United Kingdom
Qualification	MSc
Subject	Engineering Control Systems and Instrumentation

Education

Final Grade	Distinction

Description

- SIGNAL ANALYSIS AND PROCESSING
- EMBEDDED CONTROLLERS
- AUTOMATION SYSTEMS
- VIRTUAL INSTRUMENTS
- PROCESS CONTROL SYSTEMS
- DYNAMIC AND ELECTRO-MECHANICAL CONTROL SYSTEMS
- PROJECT PLANNING
- TECHNICAL PROJECT (DEVELOPMENT OF LASER BEAM ANALYSIS SOFTWARE)

Education

University of Science and Technology, Port Harcourt	
Period	22.04.2002 - 18.10.2006
Country	Nigeria
Qualification	Bachelor of Technology
Subject	Computer Engineering
Final Grade	Second Class Lower

Description

Engineering Maths 3-6
Technical Drawing
Applied Mechanics
Fluid Dynamics
Strength of Materials
Material Science
Introduction to Computer Engineering
Introduction to Digital Systems
Introduction to Electronics
Electric Circuit Theory 1&2
Software Engineering
System Analysis and Design
Data Structures and Algorithms
Computer Programming
Programming Languages
Artificial Intelligence
Computer Architecture 1-2
Operating Systems
Numerical Computation
Engineering Management
Engineering Law
Philosophy and English language
Applied Mechanics
Thermodynamics
System Programming
Electrical Technology
Introduction to Power Systems
Introduction to Telecommunications
Introduction to Electrical Machines

Work Experience

Office of the Vice Chancellor, University of Huddersfield	
Period	23.04.2017 -
Country	United Kingdom
Notice Period (if applicable)	
Job Title	PHP Web Solutions Architect (Part Time)
Current/Most Recent Salary	
Reason for Leaving	Need a full time Job after completion of PhD

Description

-Requirements Analysis
-Implementation of MySQL Database
-Full Stack Web Portal using JavaScript and PHP MVC frameworks

Work Experience

Phoenix Materials Testing, Brierley, West Midlands	
Period	01.01.2019 - 31.03.2019
Country	United Kingdom
Notice Period (if applicable)	
Job Title	Electronics/Embedded Systems design engineer (Part Time)
Current/Most Recent Salary	
Reason for Leaving	Looking for a permanent job in the academic field at the end of my PhD.

Description

-Design and implementation of Embedded System Circuits using Altium designer.
-Routing of Electronic circuit boards using Altium designer
-Preparation of BOM using Altium designer and MS Excel
-Management of Embedded projects using Microsoft Project
-Development of Drivers for various embedded subsystems.
-Use of Mbed and Keil platform for development of Embedded firmware
-Development of various state machine and other algorithms for embedded firmware.
-Development of Embedded Circuit Testing systems
-Analysis and design of embedded systems used for various material testing systems.
-Implementation of Agile mechanisms for management of embedded projects

Work Experience

University of Huddersfield, United Kingdom.

Period	01.09.2017 - 31.01.2019
Country	United Kingdom
Notice Period (if applicable)	
Job Title	Software Engineering Laboratory Tutor (Unpaid part-time)
Current/Most Recent Salary	
Reason for Leaving	Need a permanent job after completion of my PhD

Description

-Development of Curriculum for Undergraduate and Post Graduate Study for Web and
Machine Learning Technologies.
-Preparation of Laboratory Demonstration for software Technologies include, ASP.NET
Core MVC, ASP.NET Core Web API, Entity Framework, Keras, Matlab, python, SQL
server, MySQL, ASP.NET web forms, TensorFlow, ScikitLearn
-Courses Taught include: Undergraduate database applications and post graduate
machine learning series.
-Interacting with students, assisting with answering questions and motivating them to
get the best from their laboratory work.

Work Experience

Rocket Horse Limited, Second Floor, Platform Building, Leeds.

Period	25.09.2018 - 20.12.2018
Country	United Kingdom
Notice Period (if applicable)	
Job Title	Senior ASP.NET Core Web Application Developer (Part Time)
Current/Most Recent Salary	
Reason for Leaving	Temporary Contract Work

Description

-Development and extension of the popular pub quiz hosted application called
KWIZZBIT. www.kwizzbit.com
-Technologies include, ASP.NET Core MVC, ASP.NET Core Web API, Entity
Framework, Moq, NUnit, Service-Decorator pattern, Python Scripting, Test automation,
ReactJS, HTML, CSS, JQuery, Elastic Bean Stalk Integration
-Full Stack Web Portal using JavaScript and ASP.NET technology stack
-Agile Style Development
-AWS Integration and application management
-MySQL, Dependency Injection, AutoMapper, Redis Cache, SignalR

Work Experience

KeyIVR Technologies Limited, Yorkshire Way, Doncaster

Period	01.08.2018 - 15.09.2018
Country	United Kingdom
Notice Period (if applicable)	
Job Title	C# Software Engineer (Part time Contract)
Current/Most Recent Salary	
Reason for Leaving	Take out time off for birth of my newly born son.

Description

-Development of ASP.NET Core Web APIs on top of existing Interactive
Voice
Response solution.
-Integration of bespoke web and data centric solutions on existing Car
Parking
Database
-SQL Server 2014/2017 Enterprise Database administration
-Maintenance of Existing ASP.NET web forms web sites for customer
management
and technology integration.

Questionnaire

Diversity Monitoring

Ethnic Origin	Black or Black British - African
Gender	X Male _ Female
Is your gender identity the same as the gender you were originally assigned at birth?	X Yes _ No
Age	30-39
Date of Birth	05.11.1979
Nationality	Nigerian
Do you consider yourself to have a disability?	_ Yes X No
If yes, please tick the box(es) alongisde any of the statements below that you feel apply to yourself:	Question not answered.
What is your religion?	Christian
What is your sexual orientation?	Heterosexual

Questionnaire

Teaching Qualifications

Academic Teaching Qualifications	X None
	_ HEA Associate Fellow
	_ HEA Fellow
	_ HEA Senior Fellow
	_ HEA Principal Fellow
	_ NTFS Individual Award
	_ PGCE or Equivalent UK Qualification
	_ Completed an institutional course in teaching in the HE Sector accredited against the UK Professional Standards Framework
	_ Accredited teacher of subject by Professional UK Body
	_ Other UK accreditation for teaching in Higher Education sector
	_ Overseas accreditation/qualification
Qualification/Accreditation Details	Question not answered.

Criminal Records

Do you have any unspent criminal record/convictions or current criminal proceedings pending against you?	X No
	_ Yes
If yes, please provide details:	Question not answered.

Two Ticks

I consider myself to have a disability as specified by the Disability Discrimination Act and would like my application to be considered under the Two Ticks Scheme	_ Yes
	X No

Eligibility to Work in the UK

Is there any restriction on your ability to work in the UK?	_ No
	X Yes
If you have answered Yes to the above question, please state what kind of visa/permission to work in the UK you hold	Student visa
Please provide any other information relating to your eligibility to work in the UK	I have currently applied for renewal of my student visa. However, I will require sponsorship for a full time position
If you hold a visa or other permission entitling you to work in the UK, when does it expire?	30/04/2019
National Insurance Number	Question not answered.

Referees

1: NAME OF FIRST REFEREE	Dr David Wilson

Questionnaire

1: Job Title	Senior Lecture
1: Relationship to you	PhD Supervisor
1: Email address	d.r.wilson@hud.ac.uk
1: Address	Department of Informatics School of Computing and Informatics University of Huddersfield United Kingdom
1: Telephone number	+441484473118
1: May we approach the referee without consulting you beforehand?	X Yes _ No
2: NAME OF SECOND REFEREE	Dr Keith McCabe
2: Job Title	Manager, Planning and Information Services
2: Relationship to you	Work Supervisor
2: Email address	K.McCabe3@hud.ac.uk
2: Address	Office of the Vice Chancellor, University of Huddersfield, HD1 3DH United Kingdom
2: Telephone number	+44 1484 47 2069
2: May we approach the referee without consulting you beforehand?	X Yes _ No
3: NAME OF THIRD REFEREE	Dr. Haydn Martin
3: Job Title	Research Fellow
3: Relationship to you	MSc Project Supervisor
3: Email address	h.p.martin@hud.ac.uk
3: Address	Centre for Precision Technology School of Computing and Engineering University of Huddersfield United Kingdom
3: Telephone number	+44 1484 472167
3: May we approach the referee without consulting you beforehand?	X Yes _ No

Application Source

Application Source Type	Other
Application Source	Other (please specify below)
Further Information	UKSpeech email list