Leron Kwasi Julian

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PERMANENT INFORMATION
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SCHOOL INFORMATION
Carnegie Mellon University
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RESEARCH INTERESTS
My research interest lies in the field of computer vision. From a higher-level view, using computer vision and machine learning in the application of understanding the interaction of light with materials in cameras.

EDUCATION
PhD in Electrical & Computer Engineering
Carnegie Mellon University
- *Advisor: Dr. Aswin Sankaranarayanan*

Bachelor of Science in Computer Science
Morehouse College, Department of Computer Science
- *GPA: 3.30/4.0*
- *Graduation: May 2019*

UNDERGRADUATE COURSEWORK
Calculus 2, Linear Algebra, Conversational Artificial Intelligence, Software Engineering, Physics 1 (Mechanics), Physics 2 (Electricity & Magnetism), Set Theory, Discrete Structures, Data Structures & Algorithms.

GRADUATE COURSEWORK
Image & Video Processing, Computer Vision, Machine Learning

TECHNICAL SKILLS
- ***Libraries & Languages***: Python, C++, Java, JavaScript, Node.js, React.js, R, HTML, CSS, GraphQL, MongoDB, Twilio API, Pandas, Scikit-Learn.
- ***Concepts:*** Computer Vision, Machine Learning, Dialogflow, Git/GitHub Haar Cascade Classifier, Human-Computer Interaction, Docker, REST API.

WORK EXPERIENCE

Nuclear Data Science Analyst Intern — June 2019 – August 2019
Idaho National Laboratories — Idaho Falls, Idaho
- Mentored under Dr. Vivek Agarwal, worked in the Human Factors, Statistics & Controls group under the Light Water Reactor Sustainability (LWRS) Program.
- Performed Data Science and Machine Learning techniques in Python to develop models for the diagnostic and prognostic analysis to provide Online Monitoring for Nuclear Power Plant Systems.

Software Engineer Intern — June 2018 – August 2018
NBCUniversal — Englewood Cliffs, NJ
- Used Node.js, JavaScript, GraphQL, MongoDB, and React.js to upgrade and update existing larger-scale CNBC website from old technology powered by PHP and MySQL through Agile development.
- Using the same Full-Stack, began initial development for website for the reboot of the Deal or No Deal show.

- Developed Front-end components using React.js and CSS on dealornodeal.cnbc.com
- Experienced configuring and documenting computer systems and server infrastructures that power web applications, client-server applications and online services using REST APIs.

Research Experience

Published Ronald E. McNair Scholar — May 2017 - Present

Morehouse College — Atlanta, GA

- Program designed to prepare undergraduate students for doctoral studies through involvement in research and other scholarly activities.
- Developed a conversational agent mentor that uses short message service (SMS) for dialogue as a virtual mentor.
- This was used to mentor undergraduate computer science majors at a Historically Black College (HBCU) who are considering pursuing a graduate degree in computing.
- This research project was developed using JavaScript, Node.js, the Twilio API, and Heorku.

Publications

2. Leron Julian, Kinnis Gosha, Earl W. Huff Jr.
   The Development of a Conversational Agent Mentor Interface Using Short Message Service.
   Proceedings of the 2018 ACM SIGMIS Conference on Computers and People Research.

1. Leron Julian and Kinnis Gosha
   Using SMS as an Interface for a Virtual Mentoring System
   Proceedings of ACMSE 2018 Conference.

Invited Presentations

2019 Emerging Researchers (ERN) Conference in STEM

2018 ADMI Symposium on Computing at Minority Institutions

Projects

Fall 2018: **Gender Recognition Algorithm**

- Developed an algorithm to classify an image of an individual as a male or female using Computer Vision and Machine Learning.
- Developed in Python using OpenCV, KNN Algorithm, Supervised Learning, Datasets, and other Classification ML Models.
- Developed Graphical User Interface using Python's Tkinter GUI Interface.

Fall 2018: **Tic-Tac-Toe Artificial Intelligence Algorithm**

- Collaborated in a Tic-Tac-Toe AI project that learns to play like a user by utilizing the Minimax algorithm.
- Developed in Python using Data Science and Machine Learning Techniques.

Summer 2017: **Embodied Conversational Agent Virtual Mentor**

- Conducted and published research as a Ronald E. McNair Scholar with aid of Research Mentor Kinnis Gosha, PhD.
- Using Natural Language Processing Techniques, developed a Virtual Mentor Embodied Conversational Agent using Short Message Service and compared the effectiveness of it to a human mentor.
- Used the Twilio API, TwiML, JavaScript, Node.js, and hosted on Heroku application hosting.

Summer 2016: **Universal Care Support Services Website**

- Used HTML, PHP, BootStrap, JavaScript, and CSS to create a website for a client's start up business.
- Increased website traffic by 50%. Brought new clients to the start-up business.

- Built the website from the ground up web hosting with AwardSpace using a custom domain.

ACTIVITIES

Aug 2017 – May 2018: **Morehouse Student Gov. Association** (Dept. Sect. of IT)
Aug 2016 – May 2019: **National Society of Black Engineers**
Aug 2016 – May 2019: **Morehouse Computer Science Club**
Jan 2016 & March 2017: **Microsoft Scholarship Recipient**

REFERENCES

Kinnis Gosha
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Computer Science
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Assistant Professor
Electrical & Computer Engineering
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