

Victor Dibia

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Research Interests: Applied Artificial Intelligence, Human Computer Interaction.

EDUCATION

- **City University of Hong Kong** Kowloon Tong, Hong Kong
PhD in Information Systems (Quantitative User Behaviour, HCI) Aug. 2012 – April. 2016
- **Carnegie Mellon University** Pittsburgh, USA
MSc Information Networking; CGPA 3.67/4.0 Aug. 2009 – May. 2011

PROGRAMMING SKILLS

- **Languages:** Python, HTML5, Javascript, Java, R.
- **Libraries/Platforms:** Tensorflow, Keras, Tensorflow.js, Nodejs, React.js, D3.js, Oblong Gspeak, Tizen Wearable, Google Android, Pencil, Sketch.
- **Selected Open Source Projects:** [NeuralQA](#); [Anomagram](#); [Convnet Playground](#) ; [Handtrack.js](#); [TJBot](#); Piwik (now Matomo) Analytics.

EXPERIENCE

- **Microsoft Research** Sunnyvale, California
Principal Research Software Engineer (Generative AI) October 2021 -
 - **HCI + AI Research, GitHub CoPilot:** Conducted research on human factors, responsible AI issues related to the AI pair programming context as part of CoPilot GA process. Implemented new metrics used in evaluating candidate CoPilot models used in production. In this paper (<https://arxiv.org/abs/2210.16494>), we study how offline metrics correlate with online perceptions of value in the pair programming scenario.
 - **Generative Models, LLMs for Automated Visualization:** Worked with product teams in implementing Generative AI for specific business use cases. Conducted research on LLMs for automated data exploration and visualization <https://arxiv.org/abs/2303.02927>. Also authored research on designing interfaces for image generation models.
- **Cloudera Fast Forward Labs** New York City, New York
Principal Research Engineer/Scientist (Machine Learning) Jan 2019 - September 2021
 - **Applied Research Report Lead:** Lead and contribute to our [Applied ML Research Reports](#). E.g. *Deep Learning for Question Answering*, *Deep Learning for Anomaly Detection* and *Deep Learning for Image Analysis*.
 - **Prototype Development Lead:** Lead the development of research prototypes for communicating technical insights to our clients and the broader ML community. Example projects include - [NeuralQA: A Usable Library for Question Answering on Large Datasets with BERT](#); [Anomagram](#): an interactive prototype for building, training and evaluating an autoencoder for the task of anomaly detection (Tensorflow.js); [Convnet Playground](#): an interactive visualization for exploring representations learned by convolutional neural networks (Tensorflow, Keras); and [Manhattan Transit](#): a visualization of taxi and bike trip data in Manhattan.
 - **Client Advising:** Worked with Fast Forward Labs advising clients to understand business problems and architect solutions that leverage appropriate machine learning techniques.
 - **Core Product Engineering (Cloudera Machine Learning - CML):** Led the development of multiple features (Applied ML Prototypes - AMPs, Whats New in CML) in the core CML product. AMPs have become the standard tool for SMEs and sales teams in demonstrating CML and for customers exploring [prebuilt ML solutions](#).
- **IBM Research** Yorktown Heights, New York
Research Staff Member April 2016 - Jan 2019
 - **AI for Interaction Design:** : I created [Data2Vis](#) - Automatic Generation of Data Visualizations Using Sequence-to-Sequence Recurrent Neural Networks.
 - **Democratizing AI via Maker Kits:** I led software and design efforts for [TJBot](#) - an [open source DIY kit](#) designed to help low to medium skill users prototype embodied AI applications.
 - **Inclusive AI Datasets: COCO-Africa** - Introduced the [Africa Mask Art](#) project as part of a broader effort to curate a dataset of common objects in the context of Africa. On-going work to explore Africa-centric AI experimentation.

- **Victor Dibia** (2016) "*FOQUS: A Smartwatch Application for Individuals with ADHD and Mental Health Challenges*" The 18th International ACM SIGACCESS Conference on Computers and Accessibility (**ASSETS**), Reno Nevada.
- **Victor Dibia**, Shari Trewin, Maryam Ashoori and Thomas Erickson (2015) "*Exploring the Potential of Wearables to Support Employment for People with Mild Cognitive Impairment*" , The 17th International ACM SIGACCESS Conference on Computers and Accessibility (**ASSETS**), Lisbon Portugal.
- Zhang Jun, **Victor Dibia**, Alexey Sodnomov, Paul Lowry (2015), "*Understanding the disclosure of private healthcare information within online Quantified Self 2.0 platforms*", 19th Pacific Asia Conference on Information Systems **PACIS 2015**, Marina Bay, Singapore.
- **Victor Dibia**, Christian Wagner (2015), "*Success Within App Distribution Platforms: The Contribution Of App Diversity And App Cohesivity*", Hawaii International Conference on System Sciences, Hawaii (**HICSS**) , USA.
- **Victor Dibia** (2014), "*An Affective, Normative and Functional Approach to Designing User Experiences for Wearables*", SIGHCI 2014, International Conference on Information Systems (**ICIS Workshop**), Association of Information Systems, Auckland, New Zealand.
- **Preprints:**
 - **Victor Dibia**, Aaron Cox, Justin Weisz. 2018. *Designing for Democratization: Introducing Novices to Artificial Intelligence Via Maker Kits* <https://arxiv.org/abs/1805.10723>.
 - **Victor Dibia**. 2018 *Cognitive Translucence and Trust Intransitivity: Understanding the impact of Privacy Concerns on Wearable use in the Enterprise*.
- **Working Papers:**
 - **Victor Dibia** *Social Media Electioneering: Insights on Fake News, Disinformation and Citizen Participation in Developing Countries*,
 - **Victor Dibia** *Motivating Conversions from Interest to Contribution in Crowdsourcing Contests: An Empirical Study in the Software Industry*, Under Review
 - **Victor Dibia** "Fair Play or Benefits? Predicting Future Participation (Sustainability) in Software Crowd Sourcing Contests", In Preparation for submission.
 - **Victor Dibia** "The Fairness Roller Coaster: A deeper Look at the Phases of Software Crowdsourcing Contests , In preparation of submission .", In Preparation for submission.

INVITED TALKS AND PRESENTATIONS

- **Selected Industry Talks:**
 - [Talk] **Strata Data Conf 2019, Tensorflow World Conf 2019, QCon SF 2019**, Handtrack.js: Building Gesture Based Interactions in the Browser Using Tensorflow.js.
 - [Talk] **BangBangCon 2019, Google ML Summit, Cambridge 2019, Google ML Summit, Pittsburgh 2019** Generating Novel African Mask Art using Neural Networks.
 - [Talk] **NVIDIA GTC 2019**, Data2Vis: Automatic Generation of Data Visualizations Using Sequence-to-Sequence Recurrent Neural Networks.
 - [Poster] **JupyterCon 2018**, Data2Vis: Automatic Generation of Data Visualizations Using Sequence-to-Sequence Recurrent Neural Networks.
 - [Talk, Workshop] **Heidelberg Laureate Forum 2018** *Limitations of social network data — Fairness, accountability and transparency of AI*.
 - [Talk, Workshop] **SXSW 2017**, *Embedding Intelligence in Everyday Objects using IBM Watson Services and TJBot*.
 - [Talk, Workshop] **Web Summit 2017**, *Embedding Intelligence in Everyday Objects using IBM Watson Services and TJBot*.
 - [Keynote] **Regional STEM Academy 2017** *Democratizing Cognitive Technology Innovation using Maker Kits*.
 - [Talk] **Tizen Developer Summit 2014** *Best Practices in Designing Interfaces for Wearables*.
 - [Talk] **Blackberry Live Conference 2013** *Built for mobile and innovation in emerging markets*.

AWARDS AND HONORS

- **Academic Honors**
 - [September 2020] 2019 Best Paper Award from IEEE Computer Graphics Applications by the IEEE Computer Society Publications Board. For work done on Data2Vis.
 - [October 2018] Best Paper Award Honorable Mention (Data2Vis), IEEEVis Symposium on Visualization in Data Science (VDS).
 - [January 2018] Best Technical Demonstration, AAAI Conference on Artificial Intelligence.

- [April 2018] 1 of 200 young researchers invited to the 2018 Heidelberg Laureate Forum.
- [February 2018] Best Technical Demonstration at **AAAI 2018**.
- [October 2014] Pacific Telecommunications Council Young Scholar Program Award.
- [January 2014] Microsoft Imagine Cup Project Blueprint Finalist.
- [May 2012] Hong Kong PhD Fellowship Scheme.
- [August 2009] Carnegie Mellon University MSc Scholarship.
- [June 2008] Outstanding Graduating Student Award (Undergraduate).

● **Industry Honors**

- [June 2019] Grand Prize Winner, #BuiltWithTensorflow challenge for my work on [Handtrack.js](#) .
- [Feb 2018] Invited to the Tensorflow 2018, 2019 Summit.
- [December 2017] IBM Open Source Award.
- [October 2014] Tizen/Linux Foundation Travel Grant.
- [September 2014] Finalist, Samsung Gear Apps Challenge.
- [April 2013] Blackberry Live Speaking Alum and Travel Grant.
- [May 2012] Nokia Fellowship.
- [April 2012] Blackberry Conference Grant and App Award.
- [March 2012] Google HTML5 Code Contest Winner.

● **Media/Press Mentions**

- [January 2019] VentureBeat, BusinessDay Nigeria(a national daily) wrote an article featuring my work on AI + African Art.
- [December 2017] My work is featured on the IBM Blog , Disruptive live .
- [November 2016] My work on wearables is featured on the Wall Street Journal, including a video interview.

PATENTS

● **Granted Patents**

- *Automated summarization based on physiological data.* US Patent App. 15/424,997 . Filed Feb 2017.
- *Using ultraviolet sensor data to determine a pseudo location of a user.* US Patent App. 15/447,953, US Patent App. 10/066,987. Filed March 2017.
- *Detecting Human Input Activity In a Cognitive Environment Using Wearable Inertia and Audio Sensors.* US15/817,663. Filed November. 2017.

PROFESSIONAL SERVICES

- **Invited Reviews:** ICLR {2020 PML4DC workshop}; IEEEVis {2020}; ACM CHI {2018, 2019}; ACM CSCW {2018}; ACM IDC 2018; ACM DIS {2018}; ACM MobileHCI {2018}; IJHCI {2017}; ICIS {2013, 2014, 2015}; HICSS {2014, 2015}; PACIS {2014, 2015}; ECIS {2015}; AMCIS {2014, 2015}; PTC Meheroo Jusawalla Research Prize Award, {2016}.
- **Program Committee Member:** ICLR PML4DC Workshop {2020}, AAAI {2019}; NIPS Black in AI Workshop {2018,2019}, AfriCHI {2018}, ACM DIS {2018 AC}.

MEMBERSHIPS AND CERTIFICATIONS

- **Membership:** Association of Computing Machinery (Member, ACM); Institute for Electrical Electronics Engineers (Senior Member, IEEE); New York Academy of Sciences (Professional Member, NYAS).
 - **Certifications:** Deep Learning, specialization by deeplearning.ai on Coursera, (June 2018); Google Certified Professional - Data Engineer. (Nov 2017); Google Certified Professional - Cloud Architect (Oct 2017); Microsoft Certified Professional (Windows Server, Windows Network Infrastructure) (Jun 30, 2008); Cisco Certified Networks Associate (CCNA) (May 15 2008).
 - **Online Courses, Summer School:** Deep Learning Indaba 2018, Deep Learning specialization by deeplearning.ai on Coursera, Udacity Pytorch Challenge .
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