

Voke Brume

☎ +1 304 413 5266 | @ vrb0002@mix.wvu.edu | 🔗 linkedin.com/in/voke-brume | 🐙 github.com/voke-brume
📍 Morgantown, WV

EDUCATION

West Virginia University

Morgantown, WV

Ph.D. in Computer Science

Anticipated – 2027

Research Interest: *Machine Learning, Domain Adaptation, Computer Vision, Smart Health, Biomedical Imaging*

Graduate Certificate in Applied Statistics

Graduate Certificate in Digital Health; **GPA: 4.00**

West Virginia University

Morgantown, WV

M.Sc. in Computer Science; **GPA: 3.89**

August 2021 – August 2024

Area of Emphasis (AoE): *Computational Data Science*

Thesis: *A Domain Adaptation Approach for Morphology-independent Cell Instance Segmentation*

Graduate Certificate in GIS and Spatial Analysis; **GPA: 4.00**

Coursework: *Geospatial Modeling, Spatial Hydrology, Advanced Spatial Analysis in Resource Management, Open-Source Spatial Analytics, Spatial Analyst Project*

SKILLS

Languages: Python, R, Java, C/C++, JavaScript, TypeScript, Scala, Prolog

Database Query Languages: SQL Server, MySQL

Deep Learning Frameworks: Pytorch, Keras, TensorFlow

Data Visualization: Tableau, Excel, Python, R, draw.io

Technologies: Git, HPC, AutoCAD, ArcGIS, Adobe Illustrator & InDesign

RELEVANT EXPERIENCE

WVU Vision Lab

Morgantown, WV

Graduate Researcher

Jan 2023 – Present

- Conduct research on the application of machine learning to solving computer vision tasks in the biomedical field.
- Build Neural Networks and data processing pipelines for the domain adaptation of State-of-the-art algorithms using HPC's.
- Design, write, and run experiments, and create camera-ready visualizations for concepts and results that are included in publication submission.

WVU Housing & Residence Life

Morgantown, WV

Graduate Service Assistant, Summer Conference Assistant

Jan. 2021 – Present

- Supervise hourly staff in ensuring orderly conduct and decorum in multiple university dormitories.
- Act as a liaison between hourly staff, desk manager, Resident Life Specialist, and the Assistant Director of Residence Life.
- Supervise assigned dormitories and document unusual situations that may pose safety risks or inconvenience to residents and staff.
- Complete incident reports by documenting significant events that may require working with first responders and testifying in court.

Davis College of Design and Community Development

Morgantown, WV

Graduate Teaching Assistant to Professor Michael Hasenmyer

August 2018 – Dec. 2018

- Assisted with the setting up exercises and other indoor/outdoor class activities.
- Conducted office-hour sessions to help students' with course work.
- Graded assignments and exams.
- Performed students' score recording, calculation, and assigning of grades.

Davis College of Design and Community Development

Graduate Research Assistant to Professor Vaike Haas

Morgantown, WV

August 2017 – May 2018

- Contributed to the creation of course material for plant species identification using Adobe Creative Suite.
- Assisted with stream survey of the Monogahela River using a precision laser receiver.
- Collation and analysis of research data using Excel.

Tosin-Ade Media

IT Personnel

Lagos State, Nigeria

May 2016 – June 2017

- Setup work station of Windows and Mac computers.
- Format, install, and update software and hardware.
- Troubleshoot computer systems, and provide technical support to staff.
- Implement computer online security measures and computer hardware repairs.

PROJECTS

West Virginia Drug Epidemic Dashboard | *Tableau*

- A user-friendly interactive dashboard created in Tableau to aid exploring the intra and interrelationships between multiple factors affecting the root causes, growth, and impact of the drug epidemic in West Virginia. This dashboard also serves as a research tool for anyone interested in exploring the factors we identified.

Neural Radiance Field (NeRF) | *Computer Vision*

- A simplistic approach to generating novel views of any sample 2D dataset, using Agisoft Metashape to perform photogrammetric processing of the images, then utilizing a NeRF to generate a three dimensional short video of the 2D dataset

Forecasting Tech Layoff since COVID-19 Pandemic | *Data Science*

- A data science project that utilizes open source data to explore and analyze Tech layoffs since the onset of the COVID-19 pandemic, and use deep learning models like Recurrent Neural Network (RNN), Gated Recurrent Unit (GRU), and Long short-term Memory (LSTM) to forecast future tech employee hire/fire trends.

PUBLICATIONS & PRESENTATIONS

V. Brume, R. J. Zaveri, and G. Doretto, "Few-Shot Adaptation for Morphology-Independent Cell Instance Segmentation," IEEE International Symposium on Biomedical Imaging (ISBI), 2024.

V. Brume, M. Frazier, and A. Farson-Ciccone, "A Big Data Visualization Approach to Exploring Root Cause, Growth, and Impacts of West Virginia Drug Epidemic", Benjamin Statler College of Engineering and Mineral Resources, WVU, Dec. 15, 2022.

S. Shivam, **V. Brume**, and Wojciech Mazurek, "Simplifying NeRF: it's NeRF or nothing", Lane Department of Computer Science and Electrical Engineering, WVU, Dec. 16, 2022.

V. Brume, "Data Analysis and Forecasting of Tech Layoffs Since COVID-19 Pandemic", Benjamin Statler College of Engineering and Mineral Resources, WVU, Dec. 13, 2022.

ORGANIZATIONS

Institute of Electrical and Electronics Engineers (IEEE) *Jan 2023 – Present*
Student Member

Institute of Electrical and Electronics Engineers (IEEE) Computer Society *Jan 2023 – Present*
Student Member

Association of Computing Machinery (ACM) *Jan 2023 – Present*
Student Member

National Society of Black Engineers (NSBE) *August 2022 – Present*
Student Member

African Students Association (ASA) *August 2022 – Present*
Student Member

COMMUNITY SERVICE

AIWVU Introduction to Python/AI Workshop

May 11 & 12, 2022

Co-facilitator

Science and Engineering Fair of Metro Detroit (SEFMD) 2024

March 11 – 16, 2024

Judge

WVU Summer Undergraduate Research Symposium

July 25, 2024

Science Judge