Gregory Van Aken

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Education

2015-2019 Haverford College, Haverford, PA
Major: Chemistry
Minor: Computer Science (concentration: Scientific Computing)
GPA: 3.87/4.0

Work Experience

2019-present Software Developer, *MOBILion Systems Inc.*, Chadds Ford, PA

- Core contributor on an agile team of 4-5 developers creating software to drive a novel ion mobility / QTOF mass spectrometry instrument
- Led several external teams develop tools to interact with instrument data files
- Worked on web-enabled instrument control, REST API, microservice-oriented data acquisition, processing, and display
- Maintained several data processing / analysis tools developed alongside MOBILion chemists
- Consulted on software design and architecture for existing and future product development efforts

2018 Software Engineering Intern, *Bentley Systems*, Exton, PA

- Developed ASP.NET web APIs to interface with an extensive product record database
- Ported a company-wide build system to Python 2 / Python 3 compatibility

2017-18 TA & Grader, *Haverford College*, Haverford PA

- Graded lab work and led sessions to help students understand and accomplish Python-based projects for two courses: *Intro to Programming: Chemical Dynamics* and *Introduction to Computer Science and Data Structures*

Research/Development Experience

2018-19 Senior Thesis, Haverford College (advisor: Dr. Joshua Schrier)

- "Implementing an Actor-Based Computing System for High-Throughput Featurization of Protein Structures for Machine Learning"

2017-19 Independent Study, Haverford College

- “Implementing force-directed graphing algorithms; characterizing 2D amorphous silica”
- “Discovering synergistic material combinations through quantum-based cheminformatics”
- “Implementing a pure-functional LLVM compiler in Scheme”

2016- Independent Projects

- Simulating 3D van der Waals interactions in Python
- Location-oriented mobile application in Xamarin.Android (back-end in ASP.NET)

Skills and Techniques

Programming Languages: Python, C#/.NET, C/C++, JavaScript, HTML, Java, Bash

Development Technology: Docker, Docker-Compose, Arduino, PostgreSQL, SQL Server, Django (REST Framework), ASP.NET, QT, WPF, Kafka, MQTT, Xamarin.Android, AWS (IOT, S3, ECR, CloudFormation), Azure

IDE/Tools: Visual Studio, PyCharm, VS Code, Eclipse, Jupyter Notebook, Matlab, Origin, Excel, git, GitHub, Jira (Atlassian), CircleCI

Awards and Recognition

2020 *Winner,* 2020 NASA Entrepreneurs Challenge ($100,000 cash prize for MOBILion Systems, Inc.)

2019 *magma cum laude*, Haverford College

2019 *Departmental Honors (Chemistry)*, Haverford College

2019 *Finalist,* Ambler Award, Haverford College

2017 *Finalist,* Beckman Scholarship, Haverford College

2015-19 *Academic Honor Roll*, Centennial Conference

2014 *First Place,* PJAS Pennsylvania State Science Fair

2014 *Intel Talent Search Award* (science)

Posters and Publications

2020 James R. Arndt, Kelly L. Wormwood Moser, Gregory Van Aken, Rory M. Doyle, Tatjana Talamantes, Daniel DeBord, Laura Maxon, George Stafford, John Fjelsted, Bryan Miller, Melissa Sherman, Structures for Lossless Ion Manipulations (SLIM) Ion Mobility-Enabled Peptide Mapping for High-Throughput Critical Quality Attribute Identification and Monitoring. *[manuscript]*.

2020 Kelly L. Wormwood Moser, Gregory Van Aken, Daniel DeBord, Nathan Galen Hatcher, Laura Maxon, Melissa Sherman, Lihang Yao, Kim Ekroos, HIGH-DEFINED quantitative snapshots of the ganglioside lipidome using high resolution ION mobility SLIM assisted shotgun lipidomics, Analytica Chimica Acta, 2020, ISSN 0003-2670, https://doi.org/10.1016/j.aca.2020.12.022.

2020 Estrada Pabon, J. D.; Van Aken, G.; Pendleton, I. M.; Friedler, S. A.; Schrier, J. The Role of Configurational Entropy in Minipeptide Stability. *[manuscript]*.

2019 "Structures for Lossless Ion Manipulations (SLIM)-Mass Spectrometry (MS) for High Resolution and High Throughput Permethylated N- and O- Glycan Analysis" – MOBILion Systems

2019 "Designing an Actor-Based Parallel Computing System for High-Throughput Featurization of Proteins to Predict Stability" – Haverford College

2017 "Spray Deposited MnO2/Ti3C2 Composite Electrode With 2D Heterointerface for Ion Removal in Hybrid Capacitive Deionization" – Drexel University (REU)

Volunteer and Leadership Experience

2018-19 Captain, *Haverford College Men's Varsity Track and Field (Pole Vault)*

2017-19 Musical Leader / Business Manager, *Haverford College 'Ford S-Chords*

2016-17 Residence Advisor, *Haverford College*