



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
- Worked on web-enabled instrument control, REST API, microservice-oriented data acquisition, processing, and display
- Designed product web client UI/ UX
- 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	<i>Winner, 2020 NASA Entrepreneurs Challenge (\$100,000 cash prize for MOBILion Systems, Inc.)</i>
2019	<i>magna cum laude, Haverford College</i>
2019	<i>Departmental Honors (Chemistry), Haverford College</i>
2019	<i>Finalist, Ambler Award, Haverford College</i>
2017	<i>Finalist, Beckman Scholarship, Haverford College</i>
2015-19	<i>Academic Honor Roll, Centennial Conference</i>
2014	<i>First Place, PJAS Pennsylvania State Science Fair</i>
2014	<i>Intel Talent Search Award (science)</i>

Posters and Publications

2020	Wormwood Moser, K. L.; Van Aken, G.; DeBord, D.; Hatcher Galen, N.; Maxon, L.; Sherman, M.; Yao, L.; Ekroos, K. High-Defined Quantitative Snapshots of the Glycolipidome Using High Resolution Ion Mobility SLIM Assisted Shotgun Lipidomics. <i>[manuscript]</i> .
2020	Estrada Pabon, J. D.; Van Aken, G.; Pendleton, I. M.; Friedler, S. A.; Schrier, J. The Role of Configurational Entropy in Minipeptide Stability. <i>[manuscript]</i> .
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 MnO ₂ /Ti ₃ C ₂ Composite Electrode With 2D Heterointerface for Ion Removal in Hybrid Capacitive Deionization” – Drexel University (REU)

Volunteer and Leadership Experience

2018-19	<u>Captain</u> , <i>Haverford College Men's Varsity Track and Field (Pole Vault)</i>
2017-19	<u>Musical Leader / Business Manager</u> , <i>Haverford College 'Ford S-Chords</i>
2016-17	<u>Residence Advisor</u> , <i>Haverford College</i>