



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

2019	<i>magna cum laude</i> , Haverford College
2019	<i>Departmental Honors (Chemistry)</i> , Haverford College
2019	<i>Finalist</i> , Ambler Award, Haverford College
2017	<i>Finalist</i> , Beckman Scholarship, Haverford College
2015-19	<i>Academic Honor Roll</i> , Centennial Conference
2014	<i>First Place</i> , PJAS Pennsylvania State Science Fair
2014	<i>Intel Talent Search Award</i> (science)

Posters and Publications

2020	Estrada Pabon, J. D.; Van Aken, G.; Pendleton, I. M.; Friedler, S. A.; Schrier, J. The Role of Configurational Entropy in Mini-peptide 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> , Haverford College Men's Varsity Track and Field (Pole Vault)
2017-19	<u>Musical Leader / Business Manager</u> , Haverford College 'Ford S-Chords
2016-17	<u>Residence Advisor</u> , Haverford College