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# Michael Galarnyk

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## INDUSTRY EXPERIENCE

Data Scientist, Scripps Research Institute 11/2017 – Present

- Analyzed Fitbit Data and currently authoring publication on understanding yearly heart rate and exercise patterns (prediction of user activity and heart rate change over time) for 97,000 Fitbit users.
- Utilized google maps api to reverse geocode, created algorithm based on weekly and daily activity to impute missing exercise values.
- Efficiently merged thousands of files and produced figures showing wearable usability for a publication.
- Automated data reporting using Python (Pandas) and R.

Data Analytics using Python Instructor, UCSD Extension 01/2019 – Present

- Taught in person and online cohorts: https://extension.ucsd.edu/courses-and-programs/data-analytics-using-python
- Topics covered in the course include: Python Basics, Pandas, Matplotlib, Logistic Regression, Decision Trees, Random Forests, and Unsupervised Learning.

Data Science Instructor, General Assembly 07/2017 – 10/2017

- Taught in person and online cohorts of 25 Booz Allen Data Analysts on Python, Machine Learning (KNN, Logistic Regression, Decision Trees, etc), and Data Science
- Gave lectures on Git, Pandas, and Web Scraping.

Data Scientist, Daymon Worldwide 01/2017 – 10/2017

- Automated data reporting using Python (Pandas), R, and Redshift (SQL).
- Produced interactive data visualizations using Tableau and Python.

Data Analyst, Qualcomm Institute 01/2013 – 01/2017

- Automated data collection and analysis using Python (SciPy, NumPy, Pandas) and MATLAB
- Web scraping health fundraising data from GoFundMe.com using Python, querying and visualizing data to quantify funding incentives and ethical concerns, and predicting funding success per individual campaign (logistic regression).
- Produced 9 coauthored publications in peer reviewed journals, 250+ citations (h-index: 8), 1 publication featured on journal cover.

AWS/Data Science Intern, CME Group 06/2016 - 09/2016

- Made deep learning tutorials based on Udacity's Deep Learning Course (logistic regression, gradient descent, convolutional and recurrent neural networks).
- Lead TensorFlow based deep learning workshops for CME employees.
- Made public Amazon Machine Images with TensorFlow, Anaconda, and Jupyter.

Data Analyst Intern, Cymer 06/2015 - 09/2015

- Designed MATLAB GUI tools to automate SQL queries (MSSQL) and to automatically generate data reports from sensor data.
- Presented to CEO and earned my coworkers recognition at the Cymer All-Hands Meeting

## SKILLS

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|---|---|
| Programming: | Python, R, MATLAB, Bash Shell Scripting, JavaScript, HTML, CSS, C++, JAVA |
| Database Management: | Redshift, MSSQL, PostgreSQL, MySQL |
| Other Technologies: | Hadoop, Hive, Hue, HBase, Spark (PySpark), Amazon AWS (EC2, S3, EMR), Tableau |

## RELEVANT COURSEWORK SAMPLE

Python for Data Analysis

Machine Learning

Probability and Statistics using Python
Data Management Systems (DBMS)
Getting and Cleaning Data
Data Analysis using Hadoop and Spark
Python for Informatics
R Programming

## PROJECTS

Data Science Youtube Channel and Blog| https://www.youtube.com/c/MichaelGalarnyk

- YouTube Channel has over 500,000 total views and over 6,500 subscribers. Accompanying blog gets over 6000+ views daily and has been featured on DataCamp, KDnuggets, Towards Data Science, and Hackernoon
- Python web scraping blog post has appeared on Hacker News and is now used as an example dataset on Scrapinghub.com
- Python and machine learning basics tutorials.
- Installation videos, bash scripting, version control (Git), AWS, and Python environment management tutorials
- R coding and review blog series on the Coursera John Hopkins Data Science Specialization.

San Diego Big Data Hackathon | https://sandiegohearts.github.io/

- 2nd Place out of 30 teams.
- Made interactive San Diego heart health map using Python (Pandas), Tableau, R (data.table, ggmaps), and a small amount of JavaScript to help San Diego county locate unhealthy areas.
- Utilized Yelp API to help map food choices and hospital locations to help San Diego epidemiologists.

## PUBLICATIONS

9. V. Singh, K. Kaufmann, J. Orozco, J. Li, **M. Galarnyk**, G. Arya, J. Wang. "Micromotor based on-off Fluorescence Detection of Sarin and Soman Simulants". Chem. Commun. 2015.

8. V. Singh, B. Jurado-Sánchez, S. Sattayasamitsathit, J. Orozco, J. Li, **M. Galarnyk**, Y. Fedorak, J. Wang. "Multifunctional Silver-Exchanged Zeolite Micromotors for Catalytic Detoxification of Chemical and Biological Threats". Adv. Funct. Mater. 2015.

7. J. Orozco, G. Pan, S. Sattayasamitsathit, **M. Galarnyk**, J. Wang "Micromotors to capture and destroy anthrax simulant spores". Analyst. 2015. 140, 1421-1427.

6. B. Jurado-Sánchez, S. Sattayasamitsathit, W. Gao, L. Santos, Y. Fedorak, V. Singh, J. Orozco, **M. Galarnyk**, J. Wang. "Self-Propelled Activated Carbon Janus Micromotors for Efficient Water Purification". Small. 2015. 11(4), 499-506.

5. Z. Wu, T. Li, J. Li, W. Gao, T. Xu, C. Christianson, W. Gao, **M. Galarnyk**, Q. He, L. Zhang, J. Wang "Turning Erythrocytes into Functional Micromotors". ACS Nano. 2014. 8(12), 12041-12048.

4. V. Garcia-Gradilla, S. Sattayasamitsathit, F. Soto, F. Kuralay, C. Yardımcı, D. Wiitala, **M. Galarnyk**, J. Wang. "Ultrasound-Propelled Nanoporous Gold Wire for Efficient Drug Loading and Release". Small. 2014. 10(20), 4154-4159.

3. D. Vilela, J. Orozco, G. Cheng, S. Sattayasamitsathit, **M. Galarnyk**, C. Kan, J Wang, A Escarpa. "Multiplexed immunoassay based on micromotors and microscale tags". Lab on a Chip. 2014. 14(18), 3505-3509.

2. S. Sattayasamitsathit, K. Kaufmann, **M. Galarnyk**, R. Vazquez-Duhalt, J. Wang. "Dual-enzyme natural motors incorporating decontamination and propulsion capabilities". RSC. Adv. 2014. 4, 27565-27570.

1. J. Orozco, B. Jurado-Sanchez, G. Wagner, W. Gao, R. Vazquez-Duhalt, S. Sattayasamitsathit, **M. Galarnyk**, A. Cortés, J. Wang. "Bubble-propelled micromotors for enhanced transport of passive tracers". Langmuir. 2014. 30(18), 5082-5087.

## EDUCATION

**University of California, San Diego**

M.S. Data Science and Engineering 2018
B.S. Nanoengineering 2015