Gordon Magill

An **experienced engineer** and **developing developer.**
The engineering to find the right solution, the development skills to implement and automate it.

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Experience

Genentech / Roche - *South San Francisco, CA*
2014 - 2016, Process Development Rotational Program, PTDU
2016 - 2018, Engineer II, Late Stage Cell Culture, PTDU
2018 - 2022, Engineer III, Cell Culture and Bioprocess Operations, PTDU
2022 - Present, Principal Engineer, Cell Culture Innovation, PTDU

Rotated 6mo each in Device Development (medical device CMO transfer & metrology), Protein Analytical Chemistry (rational IEC method development), Cell Culture Process Development (commercial process optimization), and Purification Process Development (mechanistic chromatography model development).

Developed Raman spectroscopy from proof of concept through global, large scale implementation across Roche biomanufacturing network. Developed, implemented machine learning regression analysis of spectroscopic data to measure / predict cell culture process conditions, including media composition, cell density, titer, and product quality. Co-lead global team of engineers and scientists to manage at-scale deployment of equipment and analysis infrastructure.

Innovation team member developing, incubating and selectively deploying new technical and computational advances in upstream process development and manufacturing.

Bio-Rad Laboratories - *Danville, CA - µFluidics Intern*
June 2013 - Sept 2013
Rapid prototyping and testing of digital droplet PCR (ddPCR) device components to characterize physical phenomena key to performance. Created group python analysis tools.

Genentech / Roche - *Vacaville, CA - MSAT Intern*
May 2012 - May 2013, Nov 2013 - July 2014
Developed PLS, MVDA models of large scale chromatography process data. Executed scaledown chromatography studies and supported manufacturing process monitoring and investigations.

UC Davis - *Davis, CA - Undergraduate researcher*
Apr 2011 - June 2012, W.D. Ristenpart Lab
Design, fabrication, and testing of equipment for time-dependent charge transfer research. Learned MATLAB enough in a week to contribute to and then maintain the group's image analysis tools.

EDUCATION

UC Berkeley Extension - *Berkeley, CA - Certificate*
July 2022 - Jan 2023
Full stack coding bootcamp (MERN). See portfolio in right-hand column.

UC Davis - *Davis, CA - B.S Chemical Engineering*
2010-2014, Summa Cum Laude, Regent's Scholar, Dean's List x8
Application of mathematical understanding of physical phenomena to create, characterize, and optimize analytical and industrial-scale chemical systems.

Skills

>>> Full Stack Dev Portfolio

Computer Science: MERN (mongoDB, Express, React, Node.js), SQL, Handlebars, HTML, CSS, Javascript, Python, MATLAB

Software packages: JMP, SIMCA, PI, SolidWorks, MS Office, gSuite

BioPharma: 3D printing, metrology, analytical, scaledown, and preparative chromatography, cell culture, aseptic technique, Raman spectroscopy, multivariate data analysis, neural networks

Chemical Engineering: Advanced multidimensional calculus, fluid mechanics, heat and mass transfer, process control, thermodynamics, process design

Presentations & Patents

Use Of Genetic Algorithms To Identity Sample Properties Based On Raman Spectra
2021, International Patent
WO2021207160A1

Technical Capability Of Raman Spectroscopy For In-line Quantification Of Antibody Product Quality
2018, ACS Conference Presentation
2018, ISPE Conference Presentation
2018, BPI Conference Presentation

Evaluation of Raman Spectroscopy for Online Monitoring of Cell Culture Product Quality
2018, Cell Culture Engineering Poster

Modeling and Simulation in the Biotechnology Industry
2017, Industry White Paper