Filippo Venturini

Full Stack Engineer

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San Diego, CA (Remote)

Summary

Former scientist turned Full Stack Developer with a strong foundation in applied science to investigate and preserve cultural heritage. Several years of experience in Biotech employing lasers to detect explosives, as well as robots and 3D printers to manipulate bacteria in giving us a greener future. Looking forward to channeling my background and experience in the tech industry.
(Curious? Click for more)

Projects

LEARN Capstone Project | React, Ruby on Rails, View Repo

Cat Tinder | React, Ruby on Rails, View Repo

Portfolio | React, CSS, View Repo

Editech's database | HTML 5, PostgreSQL, View Repo

Jeane's website | Visit

Autumn's website | Visit

Professional Experience

LEARN Academy | San Diego, CA
Full Stack Developer Bootcamp

- Completed 480+ hours of direct coding experience in an intensive web development Bootcamp.
- Gained proficiency in building JavaScript, Ruby, and React Applications.
- Practiced test-driven development to produce full-stack Ruby on Rails applications complete with databases (PostgreSQL, Active Record).
- Front-End experience with React.js, HTML5, CSS.
- Utilized effective communication and cooperation through pair and mob programming projects with teammates.

Editech Art & Science | Freelance
Scientific Consultant (10/2019 – present)

- Prepare and edit technical reports for various research projects on works of art and non-destructive survey on historical buildings and archeological sites.
- Analyze and provide written summaries of experimental data.

Abbott | San Diego, CA
Production Chemist (06/2020 – 10/2020) (contractor)

- Fermentation in bench-scale bioreactors of microorganism for production of antibodies.
- Preparation and operation of bioreactors through software interface and input data into laboratory data management system.
- Monitoring bioreactors through sampling and off-line measurements in a GMP environment

***Skills*:**

Languages:
JavaScript, Ruby, SQL, HTML5, CSS, SASS
Frameworks:
React.js, Ruby on Rails
Testing:
JEST, RSPEC, Enzyme
Other:
Git

Graphics and Design:
Adobe Photoshop, High-Res Photography, Multispectral imaging
3D Printing

Biotech/Science:
High Throughput Screening, Enzymes, Assay development, Liquid handling systems, Cell Culture, Spectroscopy

Additional and Soft Skills:
Data Analysis, Cost analysis, Quality control, Budget management. LIMS software, Time management, Problem solving, Training

BP Biosciences Center | San Diego, CA
Research Associate: Automation, High Throughput Screening (10/2018 – 08/2019) (contractor)

- Research Associate in the automation department as part of an enzyme engineering project bridging the molecular biology and analytical chemistry groups.
- Support of the fermentation group to test and compare the performance of products under development with commercially available alternatives.
- Design, optimize and validate high-throughput enzyme activity assays in automation platform equipped with liquid handling systems, robotic arm, centrifuge, incubator, plate reader, plate sealer, shaker, etc.)
- Small-scale bacterial cell culture, protein expression, purification, and characterization using high-throughput automation platform.
- Support of molecular biology and computational scientists in HT cell culture, cloning, transformation, protein expression, and purification methods.
- Data analysis and tracking with QC metrics and processing with Excel, LIMS (Benchling), and statistical software.
- Design and analysis of experiments based on analytical, fluorescent, or spectrophotometric outputs to improve enzymes for target characteristics.

BASF | San Diego, CA
Quality Analyst/ Quality Control (3/2018-10/2018) (contractor)

- Release testing, and stability testing for late-stage development and commercial products for BASF enzymes products.
- R&D, fermentation pilot plant, and regulatory support in a GLP environment.
- Utilized colorimetric, fluorescent, and titration assays to determine activity. Conducted stability studies, data review, writing, and reviewing SOPs.
- Analyzed results in a Good Laboratory Practices (GLP) setting and review results for compliance to specifications and reporting deviations.
- Prepare and revise SOPs and test methods. Managed data on analysis results and created concise electronic data reports for investigators and/or supervisor.

Great Masters Art Science & Engineering| San Diego, CA
Scientific Consultant (8/2015-1/2018)

- GMAA uses the latest automation, imaging, and cloud computing technologies to disrupt how fine art is sold and valued, adding security to investors, and revolutionizing how the world explores art.

Editech Art & Science | Florence, Italy
Analytical Chemist / Technical Imaging Specialist (05/2010 – 01/2018)

- Analyzed more than 300 works of art from private collectors and museums combining techniques from chemistry and engineering. Preliminary analysis of art utilized multi-spectral imaging techniques (UV to X-rays) to optimize workflow and subsequent chemical analysis.
- Cross-section analysis to study morphology and stratigraphy of the samples utilizing UV/VIS Microscopy and Scanning Electron Microscopy (SEM-EDS).
- Chemical characterization of organic molecules such as resins, lipids, and carbohydrates through analytical instrumentation (AMS, ICP-MS, HPLC, GC-MS, Micro FT-IR, Raman).
- Applied various imaging techniques (Laser Scanner, Thermography, and Ground Penetrating Radar) for inspection of structural issues, or conditions of historical buildings and archaeological sites not evident from visual inspection. Assisted with the dissemination of findings through written reports and oral presentations.

Academic Experience

San Diego State University | San Diego, CA
Graduate Research Assistant (October 2015- September 2018)

- Designed and developed a portable absorbance-based laser instrument (Nd:Yag laser source in the UV-IR range) to detect traces explosives (e.g., TNT, Ammonium Nitrate, TATP, RDX) either in their native form or labeled to design on-site real-time detectors for explosives. (Funded by The Department of Defense and Homeland Security).
- Used SDS capillary gel electrophoresis coupled with degenerate four-wave mixing laser setup for detection of protein biomarkers for multiple sclerosis (Myelin Basic Protein, Immunoglobulin G up to 10^{-7}M).
- Developed antibody functionalized microarray for protein detection based on ELISA principles coupled with a laser-based setup able to detect up to femtomolar concentration.
- Kinetics studies of commercial chelating agents used in agriculture to improve production and performance comparison and new applications in oil remediation. (Funded by F.A.R.M. Co. Affiliates, LLC).

San Diego State University |San Diego, CA
Teaching Assistant CHEM 200/201 (August 2015-May 2018)

- Taught undergraduate level general chemistry. Provided mentorship to undergraduate students.

Università degli Studi di Firenze | Florence, Italy
Research Associate (August 2009-April 2010) in collaboration with the National Research Council of Italy

- Organic Synthesis of polylactic acid-based polymers through Ring Open Polymerization (ROP) functionalized with fluorine.
- Characterization (GPC/SEC, DSC, NMR, FT-IR) of functionalized polylactic acid-based polymers and evaluation of its application as protective on stone samples after accelerated artificial aging.

Education

Master of Science, Chemistry | San Diego State University, San Diego, CA, 2018
Thesis: Nonlinear Laser Wave - Mixing Detection Methods for Chem/Bio Agents and Multiple Sclerosis Biomarkers Using Microarrays and Microfluidics.

Master of Science, Conservation Science and Technology for Cultural Heritage | Università Ca' Foscari Venezia, Venice, Italy, 2013-2015
Unfished, coursework completed.

Bachelor of Science, Technology for Cultural Heritage Conservation | Università degli Studi di Firenze, Florence, Italy, 2010
Thesis: Synthesis and characterization of functionalized polylactyl acid-based polymers and evaluation for application on stone materials.

Summary (long version) (LinkedIn about me)

Ciao,

My name is Filippo Venturini. I am currently a student at LEARN Academy, a full stack development bootcamp based in San Diego where I am developing a strong foundation to be a software engineer. I was born and raised in Italy and had passion for science, particularly chemistry. I was also interested in art. A consequence of growing up between Florence and Rome is the appreciation you gain for art and science.

After completing my undergraduate studies in STEM, I joined a company involved in applying engineering to art, architecture, and archeology. During my time there, I conducted research with structural and computer science engineers who developed software to improve the application of science to culture heritage. The results of this research were presented at the TED global in Edinburgh. Additionally, I was involved in several research projects developing and improving analytical instrumentation and seeking innovative ways to solve art related mysteries. All this work led to a National Geographic documentary and several books to establish methodology and disseminate findings.

With a desire to further my education and skills, I moved to the US to pursue graduate studies in Chemistry. My research in graduate school included working on a Department of Defense (DoD) funded study to use lasers in detecting explosives. I also worked on a project to improve instrumentation using emerging technology such as 3D printing. After earning my MS in Chemistry, I began working in the field of biotech using robots to automate experiments, at which time I became more curious about coding. I decided to leave the biotech field and pursue a career in the tech industry because I like to be challenged by solving new problems and to apply my critical thinking skills. I also like the idea that this field evolves rapidly, and you are continuously learning, growing, and you can reinvent yourself.

I have always been intrigued by computers and enjoy the challenge of mixing some creativity with science and logic. My ideal job setting is to work in a vibrant startup environment within a small team. I would love to have a chance to chat with you and see if we vibe.

Filippo