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Kenneth Chang

Results driven engineer seeking to apply analytical and investigative skillset to bring about positive impact

Experience

Research & Development Engineer
MedeonBio, Sunnyvale, CA, 07/2016 - Present

- Led design, prototyping, and development of Generation 2 Nitinol(NiTi) implant. Responsible for design and management of suppliers for critical Generation 2 delivery system components. Gen 2 designs passed verification testing and successfully used in EXPANDER-1 Clinical Trial.
- Managed design iteration, prototyping and manufacture of accessory products.
- Evaluated animal study data, user experiences, physician feedback, and market landscape to iterate design from prototype to Generation 1 implant and delivery system. Generation 1 devices successfully used in First-in-Human study.
- Extensively collaborated with Senior engineer from concept feasibility to design selection phase of project. Refined experimental concepts and manufactured devices for Preclinical Animal Studies. Units successfully implanted in animals with good long-term results.
- Independently learned plot.ly in Python and Tableau to create marketing presentation with publicly available Medicare and Open Payments data to glean insights on market breakdown, intelligence on key market leaders, and information on key opinion leaders. Data gathered was utilized by marketing specialist to begin development of financial model for project.
- Managed and coached summer intern through two projects over a three month period. Intern successfully produced training model used for hands-on training of physicians.
- Supported patent filing of intellectual property, helping draft claims, create drawings, and evaluate competitor patents to determine freedom to operate.

Process Data Systems & Engineering Co-Op
Genentech, Vacaville, CA, 06/2015 - 06/2016

- Designed and implemented Column Chromatography Preparation module for process monitoring data system in Visual Basic, including automated data pull queries in SQL and Statistical Process Control tools in JMP.

Personal Projects

Cartographer
01/2021-Present , Physician Influence and Market Intelligence Project

- Developing graph database to map physician influence for Market Intelligence, Key Opinion Leader identification and Customer Network Management. Wrote Python scripts to pull publication details and relationship data from PubMed and CrossRef API's and import into Neo4j graph database. Wrote Cypher queries to perform granular analysis on topics such as physician research interests, dominant influences, common collaborators, publishing history, etc. Current database utilizes PageRank on publication citations to determine relative influence. Plans to incorporate

additional data such as physician procedure volumes, payments from manufacturers, and social media to judge influence. Sample physician profile output available on request.

Stock Price Prediction

03/2020-Present , Python Project

- Independent analysis of various stock market data, such as Prices, Volumes, indices, Dark Pool flows, and Option activity to predict stock price activity. Wrote Python scripts to aggregate data, test hypotheses, calculate option Greeks and implement basic LSTM model. Implemented multi-threading and function optimizations to reduce stock option calculation times by over 90%.

Chimera

06/2019 - 07/2019, Video Game Development Project

- Independently learned Unity and C# to develop a 2D wave-based survival shooter in under a month. Programmed player movement, weapon upgrades, UI, and enemies. Implemented procedural generation of wave composition and elite enemies, allowing for wide gameplay variety.

Histopathology Cancer Classifier

01/2019 - 03/2019, Machine Learning Application Project

- Developed machine learning classifier with Tensorflow to determine if histopathological images contained malignant cells. Researched publications to determine architecture to implement. Final design implemented Spatial Transform Layers feeding Convolution layers, before final classification.

Patents

- US20210022594A1 (Pending) : Delivery systems and devices for the treatment of benign prostatic hyperplasia and related lower urinary tract symptoms

Skills

Software	MATLAB, Tableau, InkScape, Latex, Microsoft Office and Project, Minitab	Programming	Python: Numpy, Pandas, Keras, Neo4j, Selenium Webdriver C#: Unity Other: SQL
Prototyping	3D Printing, Laser Cutting, Catheter Hot Box, Machining	3D CAD	Solidworks
Languages	Mandarin Chinese		

Education and Courses

2012–2016 **B.S. Biomedical Engineering**, *University of California, Davis*, GPA: 3.3/4.0.

Additional Coursework

- Deep Learning Specialization
  Coursera, Completed Mar 2018
- Machine Learning
  Coursera, Completed Aug 2017
- Introduction to Data Science in Python
  Coursera, Completed Oct 2017
- Solidworks Advanced
  GoEngineer, Solidworks VAR, Completed Aug 2017