Huang P.

Oakland, California

Senior Data Engineer at Juvo

Summary

RECRUITERS: I will add you, but I'm currently not looking.

Seasoned Tech Veteran with strong problem-solving skills and proven ability to quickly ramp up on new technologies. Main interests: FinTech, early stage startups, data engineering, data science, analytics, big data, quantitative finance, cryptocurrencies, blockchain.

- Started and lead Data Engineering at a rapidly growing Real Estate FinTech startup; architected and implemented a scalable data infrastructure for the entire company using cutting edge technology
- 12+ years of recent software development experience specializing in early stage startups; 10 years of hardware development experience
- Expertise in data infrastructure, data warehouses, databases, deploying data science models to production, data product development methodology, statistics / analytics, data visualization, digital signal processing (time series, audio / image processing), quantitative finance, geospatial data, and GPUs.
- Familiarity with data science: regression, classification, random forests, dimensionality reduction, clustering, natural language processing, neural networks, etc.
- Technical skillset in SQL, Python, R, Matlab, Airflow, Snowflake, Spark, AWS, Azure
- Domain knowledge of FinTech, real estate, lending, algorithmic trading systems, quantitative finance. Crypto and blockchain enthusiast.
- ASIC / FPGA development: 5 years designing 3D GPUs; 5 years designing 4G wireless chips
- Graduate of UC Berkeley BS EECS, Stanford MS EE, UCLA Anderson School of Management MFE, Blockchain University; US Citizen

Experience

Senior Data Engineer at Juvo
February 2019 - Present (8 months)

Owner / Investor at Real estate
1996 - Present (23 years)

Active owner / investor in real estate

Also avid martial artist entire life: mentally strong & self disciplined

Senior Data Engineer at Roofstock
March 2017 - January 2019 (1 year 11 months)

Roofstock is a FinTech startup disrupting the Single Family Residential Investment industry. I lead the efforts to build out Roofstock's core data systems using state of the art tools. I was the 1st data engineer at Roofstock and the 2nd member of the data team. The scalable data infrastructure I implemented handled Roofstock's growth from 60 people to 170 and beyond.

Data Infrastructure
- Adopted Snowflake, Airflow, Fivetran, Domino Data Lab, Sigma Computing, Tableau, AWS S3
- Spun up an Ubuntu Linux Airflow server on an Azure VM, using Anaconda python and JupyterLab

ELT / Warehousing
- Wrote sophisticated Airflow DAGs in python that ingested real estate data into Snowflake and Azure SQL DB
- Used Fivetran to ingest data from Mixpanel, Salesforce, Hubspot, Google Analytics, etc. into Snowflake
- Data product development methodology: dbt for data modeling, test / data quality, and documentation

Data Services
- Wrote part of the data services API in .NET Core C#; this API provides data to the Roofstock website
- Developed several self-service data tools using Domino Launchers and python
- Provided ad-hoc analytics support to marketing, enterprise / retail sales, and operations through Sigma and SQL queries

Data Science
- Ownership Graph: Property Ownership Mapping process
  * Improved the hierarchical clustering algorithm by using the python graph-tool library; explored Neo4j
  * Wrote several Airflow DAGs that deployed this process to production; the resulting top owners tables were used by Enterprise Sales to significantly improve Roofstock revenue
- Deployed the Neighborhood Score algorithm (uses PCA) to production by adding geospatial data (shapefiles)

Miscellaneous
- Adopted data sources for Roofstock: real estate, demographic, people, school, crime, etc.; Managed data vendors costs

- Wrote a data engineer take-home test; interviewed data engineers and hired a data engineering intern
- Implemented Confluence, Git / Bitbucket, and Jira for the data team

Consultant at Data Science
July 2016 - February 2017 (8 months)

Data Science & Engineering Consultant
Oct 2016 - Feb 2017:
- Exploratory data analysis, predictive modeling, big data architecture, and machine learning assignments for various companies
  * Using Spark 2.+, pyspark.ml on AWS clusters; Python scikit-learn, pandas, numpy, matplotlib, etc. on Jupyter notebooks, Python flask based API for exchange order book on DockerHub

Self-Study
July - Sept 2016: Up to date with the latest Big Data technologies: attended many data / machine learning conferences; Self-study of
- Machine & Deep Learning: regression, classification, clustering, dimensionality reduction, SVM, neural networks, TensorFlow
- Big Data: Domino, Data Robot, Snowflake, Airflow, TidalScale, Hadoop, YARN / Mesos, Kafka, ElasticSearch, Drill, Ignite, Alluxio, Parquet
- Web Scraping: Requests, Beautiful Soup, Scrapy, Nutch, Selenium
- Natural Language Processing: NLTK, dedupe, TextBlob, Named Entity Recognition, word2vec, TF-IDF, topic & sentiment analysis
- HackerRank: Scala tutorials
- Kaggle data science exercises

VP of Engineering at Plum Lending
October 2015 - June 2016 (9 months)

Plum Lending is a FinTech startup revolutionizing the small balance Commercial Real Estate (CRE) lending space. I was brought on to oversee all technology (both data and web) developed at Plum. While at Plum I started and established the Engineering Department.

Data Mining / Engineering
- Researched & combined structured, semi-structured, and unstructured CRE data sources for upload to Salesforce
  - Data sources: CMBS, data vendors, manual research / Upwork, web scraping, Natural Language Processing / Text Mining
- Completed initial data architecture on AWS: S3, RDS (PostgreSQL), EMR (Hive / Pig), Redshift
- Analyzed economic & financial data to select Metropolitan Statistical Areas for initial lending efforts

Web Tools
- Completed alpha versions of several Consumer SaaS web tools for CRE lending (Quote Tool, Funding Tracker)
- Gathered business requirements from originations / underwriting / marketing; managed web dev consultants
- Researched and selected tech stack (.NET Web API, Angular); managed AWS DevOps
- Oversaw testing: golden Excel spreadsheets, usertesting.com, optimizely.com A/B, surveymonkey.com
- Researched: digital security & governance / certification (ISO 27001, SOC 2, etc.), competitor SaaS

Management / IT
- Hired Software Architect, Chief Data Scientist, Sr. DB Dev; wrote job descriptions, created technical interview process
- Wrote Eng. Dept. Culture document, recommended SW dev tools & best practices, created project plans / schedules
- Established IT infrastructure (ISPs, firewall, internal network, standard PCs), hired IT firm

Personal Projects at Bitcoin, Cryptocurrencies, Quantitative Trading
December 2014 - September 2015 (10 months)

Finished up some personal projects:
- Researched cryptocurrencies: attended many Bitcoin conferences & meetups, read papers, watched Bitcoin videos, traded cryptocurrencies, studied microfinance
- Learned how to program on the Bitcoin & Ethereum blockchains at Block Chain University (blockchainu.co): JavaScript, Node.js, Python, Go, Smart Contracts, Distributed Applications
- Class projects (github.com/huang-pan): Bitcoin multi-sig escrow, Ethereum Village Bank
- Completed research on some personal quant trading projects

Lead Quantitative Developer at T2AM LLC.
June 2011 - November 2014 (3 years 6 months)

T2AM (formerly Telesis Capital) is a quantitative hedge fund that is a leading authority in the field of algorithmic / high frequency / black box trading. While at T2AM (a small firm), I significantly improved the analytical capabilities of the firm which directly resulted in higher returns.
- Developed a suite of Portfolio Management & Risk Analytic web tools which improved the quality of the manager selection process
  * Exploratory statistical analysis, ETL / data cleaning, and data visualization using R, SQL, .NET C#
  * R libraries: RODBC, dplyr, PerformanceAnalytics, parallel (CPU multi-core), ggplot2, googleVis, R Markdown

- Predictive modeling: implemented & tested several algorithmic trading strategies on various securities using
  * Time series data from Tradestation, backtest & cross validation on MultiCharts, DSP techniques on Matlab
- Architected a scalable cloud based Portfolio / Risk Management web app that uses the latest Full Stack technologies including: Bootstrap responsive & reactive HTML5 / CSS3, D3.js, Distributed R, OpenID / OAuth, Docker, Amazon Web Services (AWS)
- Created a distributed trade execution system in Excel VBA that interfaced with the Bloomberg EMSX API
- Implemented software project management tools for the firm using Atlassian: Confluence, Jira (Agile), Bitbucket (Git)
- Created the software design methodology for the firm; managed & supported the IT infrastructure; developed technical interviews
- Also familiar with: Linux, Microsoft Sharepoint & Office365 / Lync, various financial data sources, Bloomberg, computer networking

Professional Day Trader & Full Time Student at UC Berkeley Extension online (Cupertino, CA)
November 2008 - December 2010 (2 years 2 months)

Full Time Day Trader (Nov. 2008 to June 2010)
- Investigated efficacy of a technical momentum based system trading the S&P 500 futures (ES) at eminiaddict.com
- Gained knowledge of the markets & technical analysis; developed proper trading rules and risk / money management
- Traded own accounts: most successful trade to date resulted in an 85% return with a 1% risk

Prepared for UCLA Anderson Master of Financial Engineering program (July 2010 to Dec. 2010)
- Passed CFA level 1 with highest marks in all categories
- GRE 790 quant (92%) 700 verbal (97%)
- Took prep. classes in statistics, economics, C++

Founder & CEO at Pan Filter Technology
September 2006 - October 2008 (2 years 2 months)

The Pan Filter is a revolutionary ideal filter developed by my father Dr. Cheh Pan. It solves the Gibb's ringing problem that has plagued digital filters for over 100 years. The Pan Filter is a highly mathematical Digital Signal Processing algorithm based on the Fast Fourier Transform, and has been published and patented.
- Extended & improved upon the core technology / Intellectual Property through strong PhD level applied research
- Developed real-time & data analysis software products for audio & image signal processing in Matlab; implemented the filter in C on a TI DSP

- Looked at all areas of starting a company: created business, marketing, sales, finance, Intellectual Property, and legal plans
- Presented the technology to different companies (including Matlab and TI) for licensing

Please see our website at panfilter.com for more info

Member of Technical Staff ASIC Design at RFMD
June 2002 - April 2005 (2 years 11 months)

Wireless LAN department: formerly Resonext Communications, a wireless startup acquired by RFMD in Dec. 2002 for $133 million.

- Lead an engineering team in the development & design of the PCI Express (PCIe) module of the Nepton chip

* PCIe was the key interface that differentiated RFMD's Nepton chip from its competitor's products
* Nepton was the first working PCIe wireless chip in the world, and was scheduled to generate $100's of millions

- Managed a cross functional effort to establish PCIe compliance w/industry standards for Nepton chip
- Successfully developed the Cipher coding encryption / decryption module of the Neptune 2 chip
- Developed the USB 2.0 module of the Triton project; successfully taped out the Neptune chip
- Evaluated new tools and improved the chip design methodology of the WLAN ASIC group

Senior Digital Chip Designer at Iospan Wireless
September 2000 - June 2002 (1 year 10 months)

Iospan was a wireless start-up founded by Professor Paulraj of Stanford University. I was instrumental in helping Iospan become the first company to successfully demonstrate 4G wireless in the world: its technology became the basis for 4G WiMax / LTE.

- Designed & coded a wireless channel Interpolator (a poly-phase filter), a Symbol Demapper, and a Frequency Conversion Unit for one of Iospan's MIMO OFDM broadband wireless chips (PHY: physical layer of OSI model)
- Created / owned the PHY hardware spec; worked with marketing to convert the spec to a product datasheet
- Completed the PHY ASIC top-level Verilog code & testbench; was the project verification lead for the PHY FPGA & ASIC
- Helped prototype Iospan's wireless technology on Xilinx FPGAs in the lab; helped test & measure the performance of the first PHY ASIC samples in the field
- Required solid understanding of wireless fundamentals as well as the ability to work with circuit boards, the hardware / software interface (chip firmware), and lab equipment (oscilloscopes, spectrum analyzers, etc.)

Digital Chip Designer at Sun Microsystems

December 1997 - September 2000 (2 years 10 months)

The Graphics & Imaging department was responsible for creating high performance 3D graphics chips (GPUs) for Sun workstations. The FFB3 graphics chip was the largest chip at Sun at the time.

- Lead a small team to design the Vertex Processor and 3D lighting unit of FFB3
- Developed several patents during my tenure: U.S. Patents 5181-28100, 5181-89600, 5181-89800
- Learned much about ASIC design from spec writing to rtl coding to synthesis & verification to place & route to chip tape out; Sun ASIC design methodology was the industry standard
- Other duties included test writing for code coverage & formal verification, system & gate level debug, static timing analysis, and silicon test vector generation

Junior Digital Chip Designer at Cirrus Logic

January 1996 - December 1997 (2 years)

The Entertainment Graphics department was responsible for creating 3D graphics chips (GPUs) for IBM compatible PCs.

- Learned how to write chip design code in Verilog and how to run Synopsys / Cadence / Mentor Graphics ASIC design tools
- Worked on 3D graphics chips including Microsoft's Talisman and Cirrus's Magnum & Laguna chips; studied MPEG
- Work included 3D geometry/triangle setup engine design, synthesis and initial place & route of a texture compression block, creation of a random test generator for a Rambus DRAM bus interface, and implementation of digital arithmetic structures (IEEE floating point adders, multipliers, reciprocators)

Summer Intern at AMD

June 1995 - August 1995 (3 months)

The CAD Technology & Systems Division was responsible for creating tools that improved AMD's chip design methodology.

- Helped develop a Computer Aided Design (CAD) tool called Timing Budget Specification
- Improved programming skills by coding a database syntax parser in C

Research Assistant at UC Berkeley

January 1995 - May 1995 (5 months)

- Worked with Chris Keller under Professor Roger T. Howe in the EECS department to design and fabricate polysilicon (MEMS) microstructures

Summer Intern at Stanford Linear Accelerator Center

June 1994 - August 1994 (3 months)

- Implemented a new Thermoluminescent Dosimetry (TLD) system on a Foxpro Database Management System for monitoring SLAC employee radiation levels
- Trained technicians to use the technologically advanced system

Education

Blockchain University
Certificate of Completion, Learned how to program on the Bitcoin & Ethereum Blockchains Jan-Feb 2015, 2015 - 2015
University of California, Los Angeles - The Anderson School of Management
Master of Financial Engineering (MFE), Quantitative Finance, 2011 - 2011
Beijing Language and Culture University
Intensive Language Program, 2005 - 2006
Stanford University
Master of Science (MS), Electrical Engineering, 1998 - 2000
University of California, Berkeley
Bachelor of Science (BS), Electrical Engineering and Computer Science, 1992 - 1995
Saratoga High
High School, GD, 1988 - 1992

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LinkedIn Recruiter

4 people have recommended Huang

"Huang has good digital design qualities. He makes sure that he comprehend the specification completely to the smallest details and delivers high quality RTL code, doing thorough verification. Huang understands very well ASIC design flow steps and all aspects of methodology as well tools used in ASIC design and uses them efficiently. During our work at RFMD Huang quickly gained valuable experience in design and co-simulation methodology specific to wireless system design."

—Dmitry Cherniavsky, Advanced architectures, algorithms and standards, SiBEAM technology group Silicon Image/Lattice Semiconductor, worked directly with Huang at Pan Filter Technology

"Huang worked for me as a senior ASIC design engineer at Iospan Wireless. He was a key designer on Iospan's MIMO PHY ASIC. He is very meticulous, always enthusiastic and a pleasure to work with!"

—Joanne Ottney, Vice President Engineering, Palo Alto Networks, managed Huang at Iospan Wireless

"Huang is a dependable and resourceful colleague. He's able to solve complicated problems and articulate his solution elegantly. His latest creation, Pan Filter, is a unique solution to improve audio video quality. I highly recommend Huang."

—Jim Nguyen, VP of Products & Marketing, OKCoin, was with another company when working with Huang at Pan Filter Technology

"I shared three years of intense work with Huang at RFMD/Resonext developing the physical layer for a wireless networking solution. Among the different tasks that Huang worked on, I remember Huang implementing the digital section of a high speed host interface and later validating it in the lab. The module worked flawlessly and initial difficulties were quickly resolved thanks to his dedication and smart thinking. His open personality and constant good temper makes him an excellent person to interact and work with on a daily basis."

—Andrea R., R&D Engineer, ABB, worked directly with Huang at Pan Filter Technology