

TONY (HAN) DENG

Mechatronics Engineering
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github.com/Soverne; gitlab.com/Soverne
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SKILLS:

Web Development

Javascript, Express,
Node.js, Mongoose,
RShiny, HTML, CSS,
React, Hugo

Statistical programming

R, RMarkdown,
NumPy, Plot.ly

General purpose

Python, C++,
RobotC, Git

Databases

MongoDB,
Mongoose, MySQL,

EDUCATION:

University of Waterloo

- Created an automated pharmacy using Lego NXT and RobotC
- Member of CSC, Data Science club
- Relevant courses include MTE140 – Data Structures and Algorithms; MTE241 – Real-Time Operating Systems

INTERESTS:

Human augmentation
Cooking
Fishing
Movies

EXPERIENCE:

Co-founder and Software engineering – Valuo.io

Jan 2017 – Present

- Headed software design and full-stack implementation of SaaS marketing dashboard product with Javascript codebase
- Led dashboard product through multiple iterations of UI/UX design and performance optimization, driven by test results and user feedback
- Designed and implemented Mongoose, MongoDB solution to store user data
- Created modular plotting widgets using Google Charts and Plot.ly libraries
- Managed AWS resources for DNS routing, server hosting, and data redundancy

Co-op Analyst (Total Portfolio Management) – CPP Investment Board May – Aug 2016

- Built web-hosted macroeconomic visualization dashboard using RShiny, deployed as new standard for presentation of experimental models within department
- Conducted novel quantitative analysis on alternative inflation indicators
- Built R dashboards for automated retrieval of current economic data
- Wrote department-wide manual on financial modelling, data processing, forecasting and visualization using R

Software and chassis engineer – First Robotics Team 4719

Sep 2012 – Apr 2015

- Programmed autonomous navigation in RobotC for VeX robot competition
- Led webcam fed height optimization algorithm deployed on competition robot
- Implemented flexible-membrane-ball-transfer mechanism for VeX chassis
- Designed and machined aluminum chassis components for competition robot

Co-founder, CTO of Innovo – Junior Achievement Alberta

Oct 2013 – Mar 2014

- Built and maintained static website for company, written with HTML and
- Managed website and six-member student team

PROJECTS:

Beeble – Personal data science (eventual AI) endeavour

- Daily aggregate tracking of mood, calorie, productivity and time allocation data
- Can make simple recommendations for optimal time and task allocation from past data (i.e. relax around 2 – 3 pm, make use of ~10pm focus period)
- Exploring options for training ML model and increasing recorded parameters

CECA-Scrape – Web scraping exploration with Python

- Used BeautifulSoup and NumPy to scrape information session details from CECA calendar to streamline high level attendance planning

AWARDS:

- Second Place in WEC2017 Senior Design
- FIRST Robotics Western Canadian Regional Champions 2015, 2014
- Best overall project and Best application of scientific principles at Shad Cup 2014
- Schlumberger Founder's Scholarship