Janus Bo Andersen
Software and embedded developer

PERSONAL INFORMATION

Danish/EU citizen based in Singapore with S'porean spouse. Work in Singapore with LOC (LTVP-Plus), pursuing PR.
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SUMMARY

- Software and embedded developer with top of the year GPA, completing B.Eng. degree at end of 2021.
- Targeting 5+ months internship or developer role in Singapore start-up tech sector.
- Close to 10 years of impact with analytics, projects and leadership from finance, holding M.Sc. in Finance.
- Pursuing passion for tech and engineering by deepening skills through degree and moving into tech from finance.

SELECTED TECH PROJECTS

- Computer vision pipeline delivering 3D scene reconstruction and image depth-segmentation using multiple views.
- Machine learning on hardware accelerated SoC/FPGA edge device, processing vision data faster, lower power.
- Lab equipment-as-a-service, deploying dockerized backend, responsive frontend and IoT connection using MQTT.
- Smart industrial energy metering with wireless M-Bus communication, on-premises gateways and Cloud backend.
- Algorithms indicating heart arrhythmias and measuring heart rate variability (HRV) using ECG data and DSP.
- Quadrotor drone dynamic control system development.
- Productivity software rolled out to 2,000+ employees globally at industry-leading pharma company.
- Multi-currency forex risk mgmt. system deployed in Treasury of multinational corporate.

EDUCATION AND AWARDS

B.Eng. Software and Embedded (Electronics) | Aarhus University, Denmark   2018 – 2021 exp.
Top of the year with current GPA 11.9 (12-point scale).
- Core focus on software, cloud, embedded and distributed systems.
- Elective focus on machine learning, computer vision, linear algebra, SoC design.
- Elected to education committee.

M.Sc. Finance | Aarhus University, Denmark   2007 – 2009
Top of the year with GPA 11.5 (12-point scale).
- Master's thesis: Portfolio aspects of commercialization of microfinance (received highest grade).
- Focus on corporate finance, financial engineering, quantitative methods, statistics, econometrics.
- Selected for Doing Business in China, an international case competition by Boston Consulting Group.

B.Sc. Economics and Business | Aarhus University, Denmark   2004 – 2007
Top of the year with GPA 10.6 (previous Danish grading scale).
- Bachelor's thesis: Interest-rate term structure models (received highest grade).
- Exchange at Singapore Management University.
- Received McKinsey Award and Scholarship: First prize for best B.Sc. result.

PROFESSIONAL EXPERIENCE AND ACHIEVEMENTS

Consultant Developer   2016 – 2017
Novo Nordisk A/S (contract)
- Developed visual communication and productivity tool rolled out to 2000+ employees globally, and in use today.

Head of Finance, Legal, Logistics & IT
2014 – 2016

Novo Nordisk Pharmaceuticals (Philippines) Inc., Philippines

- Achieved operating profit CAGR of 20.9% over two years, versus -2.5% CAGR in two years prior, exceeding targets by driving finances and budgets through turn-around. Hit operating margin of 55%.
- Contributed to sales CAGR of 23.7% over two years vs. 4.1% two years prior and growing affiliate from less than 60 FTEs in early '14 to more than 100 in '16, by driving turn-around together with new management team. Delivering key inputs to focused strategy, new product launches and investments in the market, winning market share.
- Led department of 10 local employees, building team up from 3 and driving performance through team leader structure. Attracted and led 3 international employees joining on longer rotations and EBT to deliver projects.
- Key projects delivered with team: Implemented internal control program. Implemented invoice capture, travel and expense management, and procurement IT systems. Stepped-up logistics for launches and no stock-outs. Business ethics compliance by training Sales and tracking healthcare provider interactions. Launched new office.

Financial Risk Manager
2011 – 2014

Novo Nordisk A/S, Corporate Treasury, Denmark

- Successfully hedged the OP impact of major currencies on Group operating profit with 8-14 months target horizon during 2013-2014, managing position in OTC forwards and options, equivalent to about USD 5 billion nominal.
- Developed and implemented quantitative multi-currency hedging and risk mgmt. system with McKinsey and PwC during 2013, approved by Audit Committee and Corporate Financial management, achieving stronger insights in the impacts of currency volatility, correlations and cash flow uncertainty on net financials and operating profit.
- Analysed pharma peer group and recommended competitive capital structure changes to Executive Management and Board of Directors during 2011-2013, resulting in extensive share buyback programmes of e.g. DKK 14 billion (USD 2.3 billion) for 2013, as well as 36% and 25% growth rates in dividends for FY11 and FY12.

Global Finance Graduate
2009 – 2011

Novo Nordisk, Denmark, India, China

- 2-year international talent programme with rotations in four areas of the global organisation. Key achievements:
- Posted to Beijing, China in 2010-2011. Analysed the Chinese healthcare system and distribution system yielding a comprehensive overview, transparency and recommendations to local and global finance organisations.
- Posted to Bangalore, India in 2010. Contributed to expansion project of the Global Service Centre by supporting set-up of new VP area, driving benchmarking and policy alignment for multiple incoming SVP areas and receiving off-shoring of finance processes from new affiliates. Project enabled growth from a 50 FTE accounting-focused centre in 2010 to a global service hub with > 400 FTEs covering many business areas in 2014.

Quantitative Analyst
2007 – 2009

Jyske Bank A/S, Quantitative Research, Denmark

- Developed, implemented and tested credit risk models on the bank's loan portfolio, with focus on PD and EAD, and introduced use of a robust estimation method to deal better with outliers than previously.

TECHNICAL SKILLS

Languages: Danish (native) • English (fluent) • German (business) • Mandarin (basic)

Software development: C, C++11/14/17, Python 3, Matlab, Bash/sh, VBA

Build and test systems: CMake 3.x • GoogleTest, Catch2 (C++) • Unittest, PyTest (Py)

Version control and DevOps: Git, Github • Docker, Docker-compose • Jira

Linux and cloud: Oracle Linux 7, CentOS 7, Ubuntu 18.04, 20.04 • AWS

Machine learning and analytics: Keras/Tensorflow, Scikit-learn, Pandas, NumPy, SciPy, Matplotlib

Computer vision: Image Processing/Matlab, Computer Vision/Matlab • OpenCV

Digital signal processing: DSP/Matlab, Filter Designer/Matlab

Web technologies: Django, Flask • Nginx • HTML5, CSS, Bootstrap 4

Databases: SQL queries, PostgreSQL, MongoDB

Networking and communication protocols: MQTT, Sockets, TCP/IP • CAN, I^{2}C, SPI, UART

Embedded MCU: FreeRTOS • Arm CMSIS • Arm Cortex-M0+, Cortex-A8 • TI C5535 DSP

Embedded SoC/FPGA: VHDL, HLS, SDS • Xilinx Vivado, SDK, SDSoC, Vitis • Xilinx Zynq-7000 SoC, Artix-7 FPGA

Other: Microsoft Office • SAS BASE, STAT, IML, SQL • SAP FI/CO, BW • Control System/Matlab • Simulink