Petar Hristov

Mechanical Technologist

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PROFESSIONAL SUMMARY

UBC Engineering graduate and experienced Mechanical Designer / Technologist with a strong background in mechanical systems, product development, and systems integration across mining, marine, energy and amusement industries. Highly proficient in PTC Creo, SolidWorks, and Autodesk Inventor, with extensive experience developing 3D models, large assemblies, engineering drawings and manufacturing documentation. Experienced in taking projects from concept and system design through CAD development, engineering analysis, supplier coordination, manufacturing and installation. Strong expertise in thermal management, mechanical systems, design for manufacturing and engineering change management. Proven ability to lead multidisciplinary design efforts, coordinate internal and external resources, and deliver practical engineering solutions under demanding project schedules.

CORE COMPETENCES

- Mechanical System & Product Design
- Design for Manufacturing & Assembly
- Manufacturing & Production Support
- Systems Integration
- FEA & Engineering Analysis
- R&D and Component Selection
- CAD / 3D Modeling & Detailing
- Engineering Drawings & Documentation
- Supplier & Vendor Coordination
- Thermal Management & Cooling Systems
- Structural & Weld Stress Analysis
- Engineering Change Management (CN / CR)

PROFESSIONAL EXPERIENCE

Actalent Services, Burnaby, BC **April 2024 – Sept 2026**

Mechanical Designer, Contractor

Provide mechanical engineering and design services to multiple clients across mining, amusement, and military marine applications. Lead and support projects involving mechanical system design, structural detailing, technical documentation, systems integration, engineering analysis, supplier coordination, and production support.

Dynamic Structures — Mechanical & Structural Design

- Develop assembly drawings, installation procedures, maintenance manuals, and detailed mechanical and structural documentation for large-scale assemblies in the amusement park industry.
- Perform structural and weld stress calculations to support safe and compliant designs under stringent industry safety requirements.
- Collaborate with engineering, fabrication, and production teams to resolve design and manufacturing issues and deliver project requirements.
- Represent the client at industry events, supporting technical communication and professional relationships.

Komatsu — Systems Integration / Mining Equipment

- Lead the mechanical system design and integration of a heat-management system for underground hybrid mining equipment.
- Work directly with suppliers to model system loads, evaluate performance, and support component qualification and selection.
- Lead component selection and R&D activities, evaluating technical requirements and system performance.
- Manage a multidisciplinary CAD and systems-integration team, coordinating design activities and project deliverables.

OSI — Mechanical Marine Systems

- Manage Change Notice (CN) and Change Request (CR) processes for mechanical assemblies and engineering documentation.
- Coordinate and deploy overseas engineering resources to meet demanding client project schedules and deliverables.
- Provide engineering and design support to improve product quality, streamline workflows, and help clients meet project deadlines.
- Coordinate mechanical design activities between engineering, CAD, product development, and production teams.

Moment Energy, Burnaby, BC **Dec 2023 – April 2024**
Mechanical Technologist

- Design stationary battery modules using recycled EV batteries.
- Work with various teams to advance certification process and assure safety during thermal runaway events.
- Took primary responsibility for the design of the next-generation cooling system.
- Streamlined mechanical team procedures and engineering workflows.
- Worked with the installation team to settle system parameters, increase efficiency and uptime.
- Implementing an automated drawing checklist and procedures to improve quality of engineering drawings.

Loop Energy, Burnaby, BC **Jan 2022 – Sep 2023**
Mechanical Technologist

- Collaborated multidisciplinary engineering teams to develop fuel cell modules for use in various commercial vehicles.
- Supported product development from initial space allocation and system layout through detailed engineering drawings and GD&T.
- Led in-house assembly of first-article fuel-cell modules and worked closely with R&D and fabrication teams to refine designs.
- Developed P&ID schematics for the vehicle's drainage system.
- Validated the structural integrity of the modules frame through rigorous FEA.
- Led the design, delivery, and testing of a new structural frame.
- Redesigned the condensate trap and drainage system to improve performance and assembly efficiency.

FVT Research, Pitt Meadows, BC **Oct 2020 – Dec 2021**
BEV Systems Design Technologist

- Designed battery electric retrofit package for underground mining equipment.
- Developed structural modifications for LHD retrofit frames.
- Built and integrated high-voltage battery-electric systems in-house.
- Worked directly with mining and fabrication technicians to develop practical, repairable designs.
- Designed CAD models and mechanical systems for vehicle cooling systems.
- Performed FEA to validate machine-frame structural designs.
- Designed and modeled wiring and piping for LHD cooling systems.

GDT, Vancouver, BC **May 2020 – Dec 2020**
Forensic Mechanical Technologist (On Call)

- Designed and assembled customized testing equipment for forensic investigations.
- Collected and analyzed technical data in collaboration with forensic engineering teams.
- Supported reconstruction of police incidents through analysis and scene reconstruction.
- Developed practical expertise with high-speed cameras and photogrammetry.
- Conducted mechanical experiments to characterize material and system behavior.

Tesla/Tesla Factory, Fremont, CA **May 2019 – Aug 2019**
Equipment Design Engineering Intern

- Designed production equipment, sensors, custom tooling, and modular conveyance for motor manufacturing.
- Coordinated with suppliers to establish project requirements, deadlines, costs, and specifications.
- Supported installation, troubleshooting, and maintenance of manufacturing equipment.
- Developed a universal control-system solution for a modular production line, reducing equipment costs.

Tesla/Gigafactory, Reno, NV **Jan 2019 – May 2019**
Production Engineering Intern

- Worked with vendors to streamline manufacturing processes and develop new sensor solutions.
- Collaborated with operations and installation teams on a new motor-manufacturing line.
- Investigated production-yield issues in collaboration with QA.
- Developed a bypass solution that improved manufacturing-line efficiency.
- Addressed sources of dust and particle contamination within the manufacturing line.

NV Technologies, Vancouver, BC **May 2018 – Dec 2018**

Electromechanical Engineering Intern

- Performed electromechanical engineering work under the direction of the hardware engineering lead.
- Upgraded existing designs and developed new enclosures for future hardware.
- Manufactured, assembled, and tested PCBs for specialized processor and sensor applications.
- Developed a VBA-based inventory and manufacturing tracking system.
- Led operations of the 3D-printing production department.

Babcock Canada, Victoria, BC **Sep 2016 – Jul 2017**
Marine Systems Co-op

- Provided engineering support to submarine repair and production teams.
- Produced technical drawings, design anomaly documentation, and maintenance/repair specifications for marine systems.
- Assessed equipment condition during submarine site evaluations and developed repair plans.
- Developed VBA tools to assign engineering tasks and monitor team progress.
- Independently assessed non-critical systems and developed repair strategies.

EDUCATION

Bachelor of Science in Integrated Engineering **2020**
University of British Columbia, Vancouver, BC

French Bilingual Diploma
Moscrop Secondary, Burnaby, BC

Licenses & Certifications
Ultrasonic NDE Level 1, CINDE (Canadian Institute for Non-Destructive Evaluation)

Automotive Technician Level 1, ITA (Industry Training Authority)