
Web Profile: <https://cssam.hibersoft.com/>

Linked-In: <https://www.linkedin.com/in/cssam/>

Open Projects: <https://github.com/cssamLabs/>

Skill Badges: <https://www.credly.com/users/chandima-samaraweera.704b05ec>

GCP Profile: https://www.cloudskillsboost.google/public_profiles/cb9b5069-b826-4cc7-b256-66489a55ccba

PROFESSIONAL SUMMARY

Highly accomplished Software Engineer and proven leader with over two decades of experience architecting and delivering complex, high-performance systems across Cloud, Data, Mobile, and Microservices architectures. Passionate about applying AI/ML in real-time integrated software/hardware, driving innovation in edge computing and operational efficiency within Smart Manufacturing, Mine Management, and Connected Transport through advanced IoT and real-time data processing.

HIGHER EDUCATION

- Siemens Mechatronic Systems Certification Program (SMSCP), University of Windsor, ON, Canada. 2025
 - Associate Java Certificate, British Columbia Institute of Technology, Vancouver, BC, Canada. 2006
 - Master of Engineering in Computer Science, Asian Institute of Technology, Bangkok, Thailand 1993
 - Bachelor of Engineering in Computer Engineering, Northeastern University, Shenyang, China. 1991
 - Diploma in Modern Chinese Language, Beijing Language Institute, Beijing, China 1987
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PUBLICATIONS

- Robot Manipulation, Thesis, Asian Institute of Technology. Jan 12, 1993
 - Data Structures in Java: Student Handbook, SLIIT publication, 2001
 - Java Programming Language: Student Handbook, SLIIT publication, 2000
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PATENTS

- System and Method for Controlling Access Based on Preconditioned. 18/440,636 · Filed: Feb 13, 2024
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MEMBERSHIPS AND ACCREDITATIONS OF PROFESSIONAL ASSOCIATIONS

- Associate Member of Institute of Electrical Engineers, UK. 1992
 - UK NARIC Accreditation for foreign university qualifications. 1993
 - Member of Australian Computer Society. 1993
 - ACS Accreditation for migrating to Australia. 2016
 - Education Evaluation Experts of America to work in USA. 2017
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CONTINUES EDUCATION & LEARNING

- **Google Cloud Engineering Training & Certifications:** Cloud Engineer Learning Path, Data Engineer Learning Path, Generative AI Learning Paths
 - **AWS Cloud Engineering Training and Certifications:** Storage Learning Plan, Migration Learning Plan, DevOps Learning Plan, Data Analytics Learning Plan, Serverless Learning Plan, Developer Learning Plan, Container Learning Plan, Cloud Essentials Learning Plan
 - **MongoDB University Training and Certifications:** Advanced CURD operations, Basic Cluster Administration
 - **Databricks Training and Certifications:** Data Engineer Learning Plan
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ENGINEERING EXPERTISE & EXCELLENCE

- Nearly 25 years of experience in analyzing, designing, architecting, and developing enterprise software for many domains; Transportation, Mining, Electrical, Security, Music, and Banking.
- Strong knowledge of Software Development Life Cycle (SDLC) like Agile development and Waterfall development with strategically architecting, designing, developing, debugging, fixing and maintaining software.
- Highly knowledgeable in Object Oriented concepts and Functional concepts.
- Strove for elegance and simplicity in code while focusing on scalability, readability, and standards complicity.

Cloud Engineering

- Hands-on experience in cloud architecture, migration, deployment and development.
- Core AWS Services & Cloud Skills
 - Compute: EC2, Lambda, ECS, EKS, Fargate, Elastic Beanstalk
 - Storage & CDN: S3, EBS, EFS, Glacier, CloudFront
 - Networking: VPC, Route 53, CloudFront, API Gateway, Direct Connect
 - Database: RDS, DynamoDB, Redshift, Aurora, ElastiCache
 - Security: IAM, KMS, Secrets Manager, WAF, GuardDuty
 - DevOps & Automation: CodePipeline, CodeBuild, CodeDeploy, CloudFormation, Terraform
 - Monitoring & Logging: CloudWatch, CloudTrail, X-Ray, AWS Config
 - Serverless: Lambda, Step Functions, EventBridge, SNS, SQS
- Core GCP Services & Cloud Skills
 - Compute: Compute Engine, GKE, Cloud Run, App Engine, Cloud Functions
 - Storage & Databases: Cloud Storage, Cloud SQL, Firestore, Bigtable, Spanner
 - Networking: VPC, Cloud Load Balancing, Cloud DNS, Cloud CDN, Cloud Interconnect
 - Security: IAM, Cloud Identity, Secret Manager, Cloud KMS, Security Command Center
 - DevOps & Automation: Cloud Build, Artifact Registry, Cloud Deploy, Terraform
 - Monitoring & Logging: Cloud Monitoring, Cloud Logging, Error Reporting
 - Serverless & Event-Driven: Cloud Functions, Pub/Sub, Workflows
- Containers & Orchestration
 - Docker, Kubernetes (AWS EKS, GCP GKE), AWS ECS
 - Helm Charts, Kubectl
- Migration on-prem to AWS: Rehosting with CloudEndure, AAQ, Run-book management, AWS target preparing

Data Engineering

- Core GCP Data Services
 - Data Warehousing: BigQuery, BigQuery ML, Dataflow (Apache Beam)
 - ETL/ELT: Cloud Data Fusion, Dataprep, Dataflow (Batch/Streaming)
 - Big Data Processing: Dataproc (Spark, Hadoop), Pub/Sub (real-time streaming)
 - Databases: Cloud SQL (PostgreSQL, MySQL), Firestore, Spanner, Bigtable
- Core AWS Data Services
 - Data Warehousing: Amazon Redshift, Athena
 - ETL/ELT: AWS Glue (Spark), EMR (Spark)
 - Streaming: Kinesis (Data Streams, Firehose, Analytics), Elastic MapReduce
 - Databases: RDS, DynamoDB, Aurora
- Core Databricks and Big Data
 - Databricks Platform: Unity Catalog, DBFS, Workspace
 - Delta Lake (ACID, time)
 - Databricks SQL (Dashboards, Alerts, Serverless Warehouses)
 - Spark – PySpark (DataFrames, Spark SQL, UDFs)

- Jobs & Tasks, Delta Live Tables, AirFlow
- Programming & Scripting
 - Python (Pandas, PySpark, Notebook, NumPy, Dask)
 - SQL (Advanced: Partitioning, Window Functions, UDFs, Optimization)
- Data Pipeline Orchestration
 - Workflow Automation: Cloud Composer (Airflow), Workflows
 - Event-Driven Processing: Pub/Sub + Cloud Functions/Dataflow
 - Scheduling & Monitoring: GCP Cloud Scheduler, GCP Cloud Monitoring, AWS EventBridge, Lambda Triggers
 - AWS Step Functions
- Data Modeling & Optimization
 - Star/Snowflake Schemas (BigQuery best practices)
 - Partitioning, Clustering, Materialized Views
 - Cost Optimization (BigQuery slot reservations, storage tiers)
- Data Governance & Security
 - IAM & Data Access Control (column-level security in BigQuery)
 - Data Catalog (metadata management, tagging)
 - Encryption (KMS, CMEK), Data Loss Prevention (DLP) API
 - Compliance (GDPR, HIPAA, Data Masking)
 - Data Mesh: Dataplex
- Analytics & Machine Learning Integration
 - BigQuery ML (training models directly in SQL)
 - Vertex AI (ML pipelines, AutoML)
 - Looker (BI, embedded analytics)
- Data Lake Technologies
 - Storage layers, Metadata & Cataloging (Tagging, search, lineage, Dataplex)
 - File Formats (Parquet, Avro, ORC, Delta Lake)
 - Ingestion & Processing (Batch, Streaming, Serverless)
 - AWS S3 and Lake Formation

AI/ML Engineering

- GCP Core ML Services: Vertex AI (Managed Datasets, Training, Endpoints, Feature Store, Pipelines, Workbench), AI Platform (if still relevant for older projects), Vision AI, Natural Language AI, Speech-to-Text, Dialogflow.
- GCP MLOps & Deployment: Vertex AI Pipelines, Cloud Build, Cloud Functions, Cloud Run
- Machine Learning Frameworks & Libraries: TensorFlow, Keras, PyTorch, Pandas, NumPy
- Generative AI, LLM, Prompt Design, Gemini 2.0/2.5 Flash, Document Processing with Gemini, Music Analysis with Gemini, Video Analysis with Gemini, Streamlit, Model Garden, Analyze and Reason on Multimodal, Image Generation, Attention Mechanism, Encoder-Decoder, Transformer Models and BERT, Image Captioning models, Vector Search and Embeddings, Inspect Rich Documents, Multimodal RAG,
- Responsible AI: Fairness, Bias, Interpretability, Transparency, Privacy, Safety.

Mobile Engineering

- Hands-on experience in mobile architecting, design and development.
- Native apps: Android SDK, Objective-C, Swift, XCode, Java for Android
- Hybrid apps: Flutter, Cordova, Ionic, Xamarin, SAPFiori, AngularJS and ngCordova, SAP OData backend through ESB service
- Mobile-to-Mobile: Inter Process Communication
- Mobile SDK developments in Flutter and React-Native

Back-end Engineering

- Excellent in creating microservices architecture, design and development, extracting data from server-side using RESTful APIs and presenting in Web/Mobile Apps.
- Node-API Stack: NodeJS, Swagger/OpenApi, Postman, JWT, AWS API Gateway, AWS Lambda
- Microservices DevOps: Monitoring: Prometheus, Log Aggregation: Grafana, Metrics Aggregation: Graphite, Contract Testing: PACT, Service Discovery/Registry and Capacity Planning
- MEAN stack: MongoDB/AtlasDB, ExpressJS, Angular, NodeJS, Mongoose, OAuth, Mocha, Chai
- Java-API stack: Springboot, Lumen, Swagger/OpenApi, Postman, JWT
- Java Stack: J2EE, Java8, SpringMVC, Springboot, Feign, Liquibase, JPA, JUnit, Mockito, Canoo, CruiseControl, Selenium, Spring Cloud Contracts, Tomcat, JBoss, WebSphere, Ant, Maven, JSP, Struts, Servlets, EJB3, Apache Tuscany, Hibernate, Rational Application Developer, MQ-Workflow.
- PHP Stack: PHP7, Lumen, Vagrant, Composer on Homestead, Artisan, MySQL-Workbench, Yii, Symphony
- Containers: KOPS, Docker, Kubernetes, Minikube
- Kubernetes security: Ingress, ACME Let's Encrypt client, JWT

Mechatronics Engineering

- Mechatronics (Electrical, electronics, mechanical, Systems), sensors, circuits, Robotics, Electro Pneumatic Control Systems, PLC programming, Digital circuits, Analog Circuits, Sensors, Ladder Logic, Electrical Circuits, and Robotics.
- IoT Engineering: IIoT, IoB, GCP IoT, AWS IoT – Device Software, Control Services, and Analytical Services.

On-Premises Container Implementation

- Hands-on experience in on-premises container platform development and multi-tenancy.
- Bare-metal cloud container development: Canonical Multipass with Microk8s

Front-end Engineering

- WEB: HTML5, CSS, JavaScript,
- PWS: TypeScript, AngularJS, ReactJS, ExpressJS, Angular Material
- Command-Line Interface developments: Shell scripting, NodeJS, and Golang

Integrations and Third-party Add-ins

- Diverse hands-on experience in integrations architectures and implementations with mobile and backend.
- SSO implementations: Auth0, AWS-Cognito, Microsoft Identity Platform
- Fleet Management Integrations: Geotab, PlatformScience, AutoFleet, ELD
- Geotab Web-Addin and Geotab Drive-Addin developments

CI/CD Pipeline Configurations

- Repos: Git, GitLab,
 - Coding: GitLab-cli, Circle-CI
 - Artifactory: JFrog
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WORK EXPERIENCE

Founder, Hibersoft Technologies <http://www.hibersoft.com>

I initiated Hibersoft in 2008. It had a development center in Sri Lanka while business units in Canada, US and Australia. We delivered custom software solutions to clients in these countries. Developed hundreds of Content Management Systems and E-commerce web applications. In addition, it has engaged with big organizations and large projects. In year 2012 Hibersoft ended its business and now function as my self-employment incorporation.

Full-time Consultancies

Irdeto, Connected Transport Unit, Michigan, USA 2022 Nov ~ 2023 March. Project: Feet Engineering.
AWS Specialist, Kyndryl Canada, Regina, SK 2022 July ~ 2022 September: Nutrien AWS Migration Project. Lead Architect #2, Conducting Application Interviews, Preparing and running Run-Books. Guiding SMEs for CloudEndure installation, Cut-Over, and Testing. Hypercare on AWS

Saskpower, Regina, Canada 2015: Saskatchewan Power Corporation provides electricity for Saskatchewan, Canada. Projects: Mobile development projects carried out by Mobility Team of Technology Innovation group.

SDA.com, Vancouver, Canada 2014: Software Company. Project: “Take a Payment” mobile app for service charging. Targets independent trade workers.

Rhodium Inc., Vancouver, Canada 2013 ~ 2014. Project: Development of **Skillsmatching.com**

Elastomers Australia, Melbourne 2012 ~ Ongoing: Mine service engineering company manufacturer, installed and serviced mine panels all over Australia. Project: Develop Mine Service Support System – Service Manager (SM)

Sequestra Solutions Inc. Kamloops, BC, Canada: 2008. Project: Implementation of **Globalpaynet** payment system

Credit Union Central of BC (Central 1), Vancouver, BC, Canada 2006~ 2007. Project: **Money Transfer System (MTS)**. Integration of international money exchanges with US Credit Union Central, Netix, IBAN, SWIFT as a Java Consultant.

Youtilty Inc., North Vancouver, BC, Canada 2006. Project: Web banking solution with PIN, USB key, Scratch Card authentication mechanisms as Java Consultant.

Lionsbay Technologies Inc., Vancouver, BC, Canada 2003 ~ 2005. Project: Implementation of **Songcatalog.com** which is music licensing software for music, song and movie industries in Hollywood USA as a Java Consultant.

Hong Kong Shanghai Banking Corporation, Vancouver, BC, Canada 2002. Project: Mortgage Process Workflow and Automation Web Application as System Analyst and Imaging Consultant. Requirement Analysis and Workflow Design, IBM-MQ Workflow implementation.

Full-time Employments

Mobile and Full-stack Developer 2023 March ~ 2025 March

Keystone by Irdeto. Connected Transport Unit, Detroit, Michigan, USA

Development of Connected Transportation Technologies

Current Fleets: UPS, Amazon, and Quick Trip

I functioned as an architect/designer and developer of entire stack, where Mobile to Backend, Mobile to Automotive OEMs, and Mobile to Mobile communications were implemented.

- Architecture, Design, and Development of Mobile, Back-end, APIs, BLE
- Mobile: Flutter/Dart. Android Java/Kotlin and iOS Objective-C, React-Native
- Backend Management REST-API using NodeJS/JavaScript. CI/CD with Gitlab and Gitlab-Cli
- SSO using AWS-Cognito, AUTH0, Microsoft Identity Management
- Third-party login and ELD integrations such as Geotab, Platform Science, Autofleet

On-Premises IaaS and Full-stack Developer 2020 June ~ Oct and 2021 April ~ Sept

Facial Stats AI Inc., Toronto, ON

Development of On-premises Container Infrastructure and SaaS Multi-Tenant platform

Senior Full-stack Software Developer 2020 Oct ~ 2021 March

bitHeads, Ottawa, ON

Development of Braincloud, a Backend-as-a-Service (BaaS) for mainly game hosting

Senior Software Developer 2019

Stage3Systems, Vancouver, BC.

Development of Software for Vessels, Voyages, Ship Building and Ocean-cargo Industry

Senior Software Developer 2018

Einstein Exchange Capital Partners, Vancouver, BC.

Development of Cryptocurrency Exchange.

Senior Software Developer 2017 ~ 2018

Rezserve Technologies, Kits, Vancouver, BC.

Development of Digital Town promoting local digital business around the world

Advisory IT Specialist 2007

IBM Canada, Pacific Development Centre, Vancouver, BC, Canada

Project: **St. Jude Medical Systems USA**

Java Developer 2005 ~ 2006

ZE Power, Richmond, BC, Canada

Software and financial solutions provider for energy generating, distributing, and retailing companies

Project: Development of **ZE Market Analyzer (ZEMA)**

- Architected and designed ZEMA V2. Implemented Mathematical Analytical Engine, QueryBuilder, and DataReader components. Math component contains all the statistical analytical models such as Polynomial Regressions, Exponential Regression, Logarithmic Regression, Moving Average, MACD, Stochastic Oscillator, Volatility, Standard Deviation, Relative Strength Index, Correlations, Interpolations, Extrapolations and more.
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